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QUARTZ AUTO TECHNOLOGIES LLC

**UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA
OAKLAND DIVISION**

LYFT, INC.,

Plaintiff/Counterclaim Defendant,
v.

QUARTZ AUTO TECHNOLOGIES LLC

Defendant/Counterclaim Plaintiff.

Case No. 4:21-CV-01871-JST

**QUARTZ AUTO TECHNOLOGIES LLC'S
ANSWER, AFFIRMATIVE DEFENSES, AND
COUNTERCLAIMS TO LYFT'S FIRST
AMENDED COMPLAINT**

Defendant/Counter Plaintiff Quartz Auto Technologies LLC ("Quartz" or "Defendant"), through its undersigned counsel, submits is Answer, Affirmative Defenses, and Counterclaims in response to the First Amended Complaint for Declaratory Judgment of Noninfringement filed by Plaintiff/Counterclaim Defendant Lyft, Inc. ("Lyft" or "Plaintiff"). Quartz reserves the right to amend its Answer, Affirmative Defenses, and Counterclaims.

FACTUAL BACKGROUND

1
2 1. In 2012, Lyft launched a peer-to-peer marketplace for on-demand ridesharing and has
3 continued to pioneer innovations aligned with its mission to improve people’s lives with the world’s best
4 transportation. Today, Lyft is one of the largest multimodal transportation platforms in the United States
5 and Canada.

6 ANSWER: Quartz lacks sufficient information to form a belief as to the truth of the allegations of
7 this Paragraph and therefore denies them.

8 2. Lyft’s ridesharing marketplace connects drivers with riders via the Lyft mobile application
9 in cities across the United States and in select cities in Canada. Lyft’s ridesharing marketplace allows riders
10 to use their cars less and offers a viable alternative to car ownership. Lyft continually launches new
11 innovations on its platform and has invested heavily in research and development.

12 ANSWER: Quartz lacks sufficient information to form a belief as to the truth of the allegations of
13 this Paragraph and therefore denies them.

14 3. Counsel for Quartz Auto previously identified U.S. Patent Nos. 7,007,013; 9,691,275;
15 6,944,443; and 6,847,871 to Lyft in a presentation, and Quartz Auto alleged infringement of U.S. Patent
16 No. 7,958,215 by Lyft in a lawsuit filed in the Western District of Texas on February 28, 2020 (collectively,
17 the “Patents-in-Suit”). *See Quartz Auto Technologies LLC v. Lyft, Inc.*, Civil Action No. 1-20-cv-00719
18 (W.D. Tex.) (originally filed in Civil Action No 6:20- cv-00156 in the Waco Division and later transferred
19 to the Austin Division by joint stipulation, ECF No. 30). Quartz Auto alleged the Patents-in-Suit were
20 relevant to Lyft and sought to extract payment from Lyft to license a portfolio including the Patents-in-
21 Suit.

22 ANSWER: Quartz admits that its counsel identified U.S. Patent Nos. 7,007,013; 9,691,275;
23 6,944,443; and 6,847,871 in a presentation reviewed telephonically with Lyft’s counsel on November 19,
24 2020. Quartz admits that U.S. Patent No. 7,958,215 was previously asserted against Lyft in the identified
25 lawsuit in the Western District of Texas. Each of the Patents-in-Suit was identified to Lyft’s counsel as
26 patents that may be of interest to Lyft during on-going settlement negotiations of the Western District of
27 Texas case. Quartz denies any remaining allegations in this Paragraph.

4. On February 16, 2021, counsel for Quartz Auto e-mailed to Lyft's counsel claim charts alleging infringement of four of the Patents-in-Suit (all except the '215 Patent) by Lyft, writing, "We believe this demonstrates additional value to Lyft of taking a license under the Quartz Auto portfolio." See Exhibit A. The attachment to the e-mail included, *inter alia*, claim charts for the Patents-in-Suit purporting to demonstrate infringement of the Patents-in-Suit by Lyft. *Id.*

ANSWER: Admitted.

5. On March 29, 2021, the Western District of Texas court dismissed Quartz Auto's claims regarding the '215 Patent for improper venue, and the same day, Quartz Auto filed a new lawsuit in the District of Delaware alleging infringement of the '215 Patent by Lyft. See *Quartz Auto Technologies LLC v. Lyft, Inc.*, Civil Action No. 1:20-cv-00719 (W.D. Tex.), Order on Mot. to Dismiss, ECF No. 60; *Quartz Auto Technologies LLC v. Lyft, Inc.*, Civil Action No. 1-21-cv- 00467 (D. Del.).

ANSWER: Quartz admits that its claim that Lyft infringes certain claims of the '215 patent was dismissed from the Western District of Texas case on March 29, 2021 for improper venue. Quartz further admits that it filed a new lawsuit in the District of Delaware that asserted, among other patent infringement causes of action, infringement of certain claims of the '215 patent by Lyft.

6. As explained herein, Lyft does not infringe the Patents-in-Suit and files this Complaint for declaratory judgment to clear itself of the allegations cast by Quartz Auto over Lyft and its products.

ANSWER: Quartz denies that Lyft does not infringe the asserted claims of the Patents-in-Suit or that Lyft is entitled to any relief under any claim in its Declaratory Judgment action.

7. Quartz Auto has, in the last year, sued multiple ridesharing and delivery app platforms (including Lyft) in multiple courts across the country for alleged infringement of its patents. See, e.g., *Quartz Auto Technologies LLC v. Postmates Inc.*, Civil Action No. 1-20-cv- 01673 (D. Del.); *Quartz Auto Technologies LLC v. Uber Technologies, Inc.*, Civil Action No. 1- 20-cv-00720 (W.D. Tex.); *Quartz Auto Technologies LLC v. Lyft, Inc.*, Civil Action No. 1-20-cv- 00719 (W.D. Tex.); *Quartz Auto Technologies LLC v. Grubhub Holdings, Inc.*, Civil Action No. 1-21-cv-01545 (N.D. Ill.); *Quartz Auto Technologies LLC v. Lyft, Inc.*, Civil Action No. 1-21-cv- 00467 (D. Del.).

ANSWER: Quartz admits that since February 2020, it has initiated the five lawsuits bearing the

case numbers listed in this Paragraph 7 in three United States District Courts. In those lawsuits, Quartz alleges infringement of several of Quartz's patents by Postmates, Inc., Uber Technologies, Inc., Grubhub Holdings, Inc., and Lyft, Inc. Quartz denies any remaining allegations of this Paragraph.

PARTIES

8. Plaintiff Lyft, Inc. is a corporation duly organized and existing under the laws of the state of Delaware. Its principal place of business is located at 185 Berry Street, Suite 5000, San Francisco, California 94107.

ANSWER: Quartz admits that Lyft is a corporation organized under the laws of the State of Delaware with a place of business located at 185 Berry Street, Suite 5000, San Francisco, California 94107. Quartz lacks sufficient information to form a belief as to whether Lyft is "duly" organized or "existing," and on this basis denies those portions of the allegations.

9. Defendant Quartz Auto holds itself out as a limited liability company organized under the laws of the state of Delaware with its principal place of business located at 301 S. Fremont Ave, Baltimore, MD 21230. *See Quartz Auto Technologies LLC v. Postmates Inc.*, Civil Action No. 1-20-cv-01673 (D. Del.), Compl. at 1, ECF No. 1; *Quartz Auto Technologies LLC v. Uber Technologies, Inc.*, Civil Action No. 1-20-cv-00720 (W.D. Tex.), Compl. at 1, ECF No. 1; *Quartz Auto Technologies LLC v. Lyft, Inc.*, Civil Action No. 1-20-cv-00719 (W.D. Tex.), Compl. at 1, ECF No. 1.

ANSWER: Quartz admits that it has previously inadvertently stated that it is a Delaware limited liability company, and further states that Quartz is in fact a Maryland limited liability company. Admitted that Quartz has an address at 301 S. Fremont Ave., Baltimore, Maryland 21230.

10. On information and belief, Quartz Auto is a Maryland limited liability company with its resident agent as Keith Machen, 301 S. Fremont Ave, Baltimore, MD 21230. *See* Exhibit B.

ANSWER: Admitted.

NATURE OF THE CASE

11. Lyft seeks a declaratory judgment that it does not infringe the Patents-in-Suit, which are attached as Exhibits C through G respectively. Each patent is identified herein by the last three digits of its issued patent number.

ANSWER: Quartz admits that Lyft seeks a declaratory judgment that it does not infringe the Patents-in-Suit. Quartz denies that Lyft does not infringe the Patents-in-Suit or that Lyft is entitled to any relief under any claim in its Declaratory Judgment action.

12. This relief is necessary because Quartz Auto has: (a) asserted ownership of the Patents-in-Suit; and (b) accused Lyft of infringing the Patents-in-Suit, including by sending to counsel for Lyft claim charts purporting to show infringement of the Patents-in-Suit and filing lawsuits alleging infringement of one of the Patents-in-Suit. *See* Exhibit A.

ANSWER: Quartz admits that it has asserted ownership of the Patents-in-Suit; and identified to Lyft's counsel the Patents-in-Suit as ones that may be of interest to Lyft, and, with respect to the '215 patent, Quartz further admits that, prior to Lyft filing this action, it accused Lyft of infringing certain claims of the '215 patent in a lawsuit. Quartz denies that it has generally accused Lyft of infringing the "Patents-in-Suit" without a specific identification of claims. Quartz further denies that the relief sought by Lyft's First Amended Complaint for Declaratory Judgment of Noninfringement is "necessary" or merited. Quartz denies any remaining allegations in this Paragraph.

13. The accused Lyft products and/or services are provided by Lyft. *See* Exhibit A.

ANSWER: Quartz admits that Lyft purports to provide the accused products and/or services.

14. Lyft denies that it has infringed any claim of any of the Patents-in-Suit. Therefore, an actual controversy exists between Lyft and Quartz Auto.

ANSWER: Quartz admits that Lyft has denied infringement of any claim of any Patent-in-Suit. Quartz admits that an actual controversy exists between Lyft and Quartz as to certain claims of the Patents-in-Suit. Quartz denies that Lyft does not infringe the asserted claims of the Patents-in-Suit or that Lyft is entitled to any relief under any claim in its Declaratory Judgment action.

JURISDICTION AND VENUE

15. This Court has subject matter jurisdiction under 28 U.S.C. §§ 2201, 2202, 1331, and 1338(a), because this action arises under the laws of the United States, and in particular the Patent Act of the United States, 35 U.S.C. § 100 *et seq.*, and seeks relief under the Federal Declaratory Judgment Act.

ANSWER: Quartz admits that the Court has subject matter jurisdiction to hear this action as to

claims 1–8, 10–17, 19–26 of the '871 patent; claims 1 and 3 of the '443 patent; claims 1, 2, 5, 6, 8, 14, 16, and 20 of the '013 patent; claims 3, 5–8 and 14–16 of the '215 patent; and claims 1–6 and 9–11 of the '275 patent. Quartz denies that the Court has subject matter jurisdiction over any other claim of any Patent-in-Suit.

16. This Court has personal jurisdiction over Quartz Auto.

ANSWER: Quartz denied that this Court has personal jurisdiction over it and moved to dismiss on that basis. (*See* ECF No. 26.) Quartz acknowledges that this Court denied Quartz's motion, finding that personal jurisdiction exists. (*See* ECF No. 44.)

17. This Court has personal jurisdiction over Quartz Auto at least because Quartz Auto has more than minimum contacts with the Northern District of California such that jurisdiction over Quartz Auto in this District does not offend traditional notions of fair play and substantial justice.

ANSWER: Quartz denied that Quartz has sufficient minimum contacts with the Northern District of California and asserted that jurisdiction over it in this District would offend traditional notions of fair play and substantial justice. (*See* ECF No. 26.) Quartz acknowledges that this Court denied Quartz's motion, finding that it has personal jurisdiction over Quartz in this District and that such jurisdiction does not offend traditional notions of fair play and substantial justice. (*See* ECF No. 44.)

18. Defendant Quartz Auto has purposefully directed its activities at residents of the Northern District of California, including by making a presentation to Lyft's counsel, Jeremy Taylor of the San Francisco office of Baker Botts LLP, proposing that Lyft take a license to the Patents-in-Suit. Lyft is a corporation with its principal place of business in San Francisco, California (in this District). Mr. Taylor is an attorney in this District and was located in this District during the presentation, and Quartz Auto was aware that Mr. Taylor was located in this District during the presentation.

ANSWER: Quartz denied that Quartz purposefully directed its activities at residents of the Northern District of California in a manner sufficient to make jurisdiction over it proper. (*See* ECF No. 26.) Quartz acknowledges that this Court denied Quartz's motion, finding that jurisdiction over Quartz in this District is proper. (*See* ECF No. 44.) Quartz admits that Lyft has a place of business in this District and that its First Amended Complaint represents that Mr. Taylor is an attorney in this District and was located in this District

1 during the presentation. As to any remaining allegations of this Paragraph, denied.

2 19. Quartz Auto further purposefully directed its activities at residents of the Northern District
3 of California by sending claim charts to Lyft, through Lyft's counsel, alleging infringement of the Patents-
4 in-Suit by Lyft. *See* Exhibit A.

5 ANSWER: Quartz denied that Quartz purposefully directed its activities at residents of the Northern
6 District of California in a manner sufficient to make jurisdiction over it proper. (*See* ECF No. 26.) Quartz
7 acknowledges that this Court denied Quartz's motion, finding that jurisdiction over Quartz in this District
8 is proper. (*See* ECF No. 44.) Quartz admits that its counsel sent certain claim charts to Lyft's counsel. As
9 to any remaining allegations of this Paragraph, denied.

10 20. On information and belief, Quartz Auto has also alleged patent infringement by other
11 corporations based in California and in this District, including by filing suits alleging infringement of
12 patents against other corporations based in San Francisco and this District, including at least Postmates Inc.
13 and Uber Technologies, Inc. *See Quartz Auto Technologies LLC v. Postmates Inc.*, Civil Action No. 1-20-
14 cv-01673 (D. Del.); *Quartz Auto Technologies LLC v. Uber Technologies, Inc.*, Civil Action No. 1-20-cv-
15 00720 (W.D. Tex.). Quartz Auto has asserted multiple of the Patents-in-Suit against Uber Technologies,
16 Inc. and one of the Patents-in-suit against Lyft. *See Quartz Auto Technologies LLC v. Uber Technologies,*
17 *Inc.*, Civil Action No. 1- 20-cv-00720 (W.D. Tex.); *Quartz Auto Technologies LLC v. Lyft, Inc.*, Civil
18 Action No. 1-20-cv- 00719 (W.D. Tex.); *Quartz Auto Technologies LLC v. Lyft, Inc.*, Civil Action No. 1-
19 21-cv-00467 (D. Del.).

20 ANSWER: Quartz admits that it filed lawsuits alleging infringement of certain of its patents against
21 Postmates, Inc., Uber Technologies, Inc., and Lyft, Inc., bearing the case numbers listed in this Paragraph
22 20. Quartz admits that Postmates, Inc. and Uber Technologies, Inc. purport to have facilities in San
23 Francisco and this District. Quartz denies any remaining allegations of this Paragraph.

24 21. On information and belief, Quartz Auto is also contemplating alleging infringement of the
25 Patents-in-Suit against other companies located in this District.

26 ANSWER: Denied.

27 22. On information and belief, Quartz Auto has entered into licensing agreements to the Patents-
28

1 in-Suit with corporations having a principal place of business in the Northern District of California,
2 including Uber Technologies, Inc. and Postmates Inc.

3 ANSWER: Quartz admits that a settlement and license agreement exists between Quartz, on the
4 one hand, and Uber Technologies, Inc., and Postmates, Inc. an affiliate of Uber Technologies, on the other
5 hand, and that those companies have a principal place of business in this District. Quartz denies any
6 remaining allegations in this Paragraph.

7 23. Lyft's claims in this action for declaratory judgment of non-infringement arise out of and
8 relate to Quartz Auto's activities within California and this District, as Quartz Auto asserts that the
9 activities, products, and/or services of Lyft infringe the Patents-in-Suit.

10 ANSWER: Quartz denied that Quartz had sufficient activities within California and this District in
11 a manner sufficient to make jurisdiction over it proper. (*See* ECF No. 26.) Quartz acknowledges that this
12 Court denied Quartz's motion, finding that jurisdiction over Quartz in this District is proper. (*See* ECF No.
13 44.). Quartz admits that it has asserted and continues to assert that activities, products, and/or services of
14 Lyft infringe the asserted claims of the Patents-in-Suit. Quartz denies any remaining allegations in this
15 Paragraph.

16 24. Lyft's principal place of business is in this District.

17 ANSWER: Quartz admits that Lyft purports to have its principal place of business in this District.

18 25. Further, for example, Quartz Auto asserts that Lyft's "backend query processing," which
19 enables Lyft products provided in this District, infringes the '013 Patent. *See* Exhibit A at 3.

20 ANSWER: Quartz admits that in the claim charts found in Exhibit A, Quartz identified Lyft's
21 system architecture and processing of queries by Lyft's servers, referred to as Lyft's "backend query
22 processing," as performing method claims 1, 5, and 16 of the '013 patent. Quartz denies any remaining
23 allegations in this Paragraph.

24 26. As a further example, Quartz Auto asserts that Lyft's "backend timetable processing for
25 Lyft Line," which enables Lyft products provided in this District, infringes the '275 Patent. *See* Exhibit A
26 at 14.

27 ANSWER: Quartz admits that in the claim charts found in Exhibit A, Quartz identified Lyft's

platform and the algorithms implemented within its architecture, including the processing of an adapted timetable by its servers, collectively referred to as Lyft’s “backend timetable processing for Lyft Line,” as performing method claims 1–6 and 9–11 of the ’275 patent. Quartz denies any remaining allegations in this Paragraph.

27. As a third example, Quartz Auto asserts that Lyft “rideshare” products, offered and provided in this District, infringe the ’443 Patent. *See* Exhibit A at 27.

ANSWER: Quartz admits that in the claim charts found in Exhibit A, Quartz identified Lyft’s Driver and Rider Apps, which are used as part of Lyft’s Platform to provide rideshare services, as performing method claims 1 and 3 of the ’443 patent. Quartz denies any remaining allegations in this Paragraph.

28. As a fourth example, Quartz Auto asserts that “autonomous vehicle fleets” operated by Lyft in this District infringe the ’871 Patent. *See* Exhibit A at 42.

ANSWER: Quartz admits that in the claim charts found in Exhibit A, Quartz identified Lyft’s platform used to manage its fleet of autonomous vehicles, including the multiple infrastructure, business, and/or product layers used by Lyft to implement its services, collectively referred to as Lyft’s “Level 5 platform,” as providing systems of claims 1–8, performing method claims 10–17, and providing computer programs having code recorded on a computer readable medium of claims 19–26 of the ’871 patent. Quartz denies any remaining allegations in this Paragraph.

29. As a fifth example, Quartz Auto asserts that at least Lyft’s servers which enables Lyft products provided in this District, infringes the ’215 Patent. *See Quartz Auto Technologies LLC v. Lyft, Inc.*, Civil Action No. 1-20-cv-00719 (W.D. Tex.), Compl. at 102–142, ECF No. 1; *id.*, Amended Compl. at 172–209, ECF No. 44.; *Quartz Auto Technologies LLC v. Lyft, Inc.*, Civil Action No. 1-21-cv-00467 (D. Del.), Compl. at 37–44, ECF No. 1.

ANSWER: Quartz admits that in *Quartz Auto Technologies LLC v. Lyft, Inc.*, Civil Action No. 1:20-cv-00719 (W.D. Tex.), as of the time the Court dismissed its claims for improper venue, Quartz had asserted that one or more servers of the Lyft Platform perform the methods of claims 1–5, 8, 14–16 of the ’215 patent. Quartz further admits that in *Quartz Auto Technologies LLC v. Lyft, Inc.*, Civil Action No. 1-

21-cv-00467 (D. Del.), prior to voluntarily dismissing that action in favor of this action, Quartz had asserted that one or more servers of the Lyft Platform perform the methods of claims 3, 5–8 and 14–16 of the '215 patent against Lyft. Quartz denies any remaining allegations in this Paragraph.

30. Further, the assertion of personal jurisdiction over Quartz Auto is reasonable and fair, including because Quartz Auto has participated in other activity directed towards enforcement of the Patents-in-Suit in the District. For example, on information and belief, Quartz Auto has entered into licensing agreements to the Patents-in-Suit with companies in this District, including Uber Technologies, Inc. and Postmates Inc.

ANSWER: Quartz denied that assertion of personal jurisdiction over Quartz is reasonable and fair. (See ECF No. 26.) Quartz acknowledges that this Court denied Quartz's motion, finding that jurisdiction over Quartz in this District is proper. (See ECF No. 44.) Quartz admits that a settlement and license agreement exists between Quartz, on the one hand, and Uber Technologies, Inc., and its affiliate Postmates, Inc., on the other hand. Quartz denies any remaining allegations in this Paragraph.

31. Venue is proper in this District pursuant to at least 28 U.S.C. § 1391(b), which governs venue for declaratory judgment actions. Venue is proper at least under 28 U.S.C. § 1391(b)(2) because a substantial part of the events giving rise to the claims in this action occurred in this District. Venue is also proper in this District because Lyft is located in this District and has received Quartz Auto's charges of infringement in this District, and because this Court has personal jurisdiction over Quartz Auto.

ANSWER: Quartz denied that assertion of personal jurisdiction over Quartz is proper. (See ECF No. 26.) Quartz acknowledges that this Court denied Quartz's motion, finding that jurisdiction over Quartz in this District is proper. (See ECF No. 44.) As such, Quartz does not contest venue in this District. Quartz denies any remaining allegations in this Paragraph.

32. An actual controversy exists between Lyft and Quartz Auto over non-infringement of the Patents-in-Suit at least because Quartz Auto asserted ownership of the Patents-in-Suit, identified Lyft products by name that allegedly infringe the Patents-in-Suit, provided exemplary claim charts to Lyft purporting to show the alleged infringement, and identified examples of alleged infringement by Lyft.

ANSWER: Quartz admits that an actual controversy exists between Lyft and Quartz as to certain

claims of the Patents-in-Suit. Quartz denies that Lyft does not infringe the asserted claims of the Patents-in-Suit or that Lyft is entitled to any relief under any claim in its Declaratory Judgment action. Quartz denies any remaining allegations in this Paragraph.

COUNT 1

(DECLARATORY JUDGMENT OF NON-INFRINGEMENT OF U.S. PATENT NO. 7,007,013)

33. Lyft fully incorporates paragraphs 1 through 32 as if set forth fully in this section.

ANSWER: Quartz repeats and incorporates by reference its responses to the allegations set forth in each of the paragraphs above.

34. Quartz Auto has asserted that it is the owner of the '013 Patent.

ANSWER: Admitted.

35. Quartz Auto alleges that certain activities, products, and/or services of Lyft infringe certain claims of the '013 Patent. *See* Exhibit A at 3.

ANSWER: Quartz admits that in the claim charts found in Exhibit A, Quartz identified Lyft's system architecture and processing of queries by Lyft's servers, referred to as Lyft's "backend query processing," as performing method claims 1, 5, and 16 of the '013 patent. Quartz further admits that in its Counterclaims filed herewith, it alleges that Lyft infringes claims 1, 2, 5, 6, 8, 14, 16, and 20 of the '013 patent. Quartz denies any remaining allegations in this Paragraph.

36. As a result of the acts described in the preceding paragraphs, there exists a controversy of sufficient immediacy and reality regarding whether Lyft infringes the claims of the '013 Patent such that a declaratory judgment of non-infringement is warranted.

ANSWER: Quartz admits that an actual controversy exists between Lyft and Quartz as to claims 1, 2, 5, 6, 8, 14, 16, and 20 of the '013 patent. Quartz denies that an actual controversy exists as to any other claim of the '013 patent. Quartz further denies Lyft does not infringe claims 1, 2, 5, 6, 8, 14, 16, and 20 of the '013 patent or that Lyft is entitled to any relief under any claim in its Declaratory Judgment action.

37. Lyft has not infringed, directly or indirectly, literally or under the doctrine of equivalents, the claims of the '013 Patent by or through making, using, offering for sale, selling within the United States

and/or its importing of its products and/or services.

ANSWER: Quartz denies that Lyft has not infringed, directly or indirectly, literally or under the doctrine of equivalents, claims 1, 2, 5, 6, 8, 14, 16, and 20 of the '013 patent. Quartz lacks sufficient information to form a belief as to the truth of the remaining allegations of this Paragraph, including whether Lyft infringes any other claim of the '013 patent, and therefore denies them.

38. The '013 Patent purports to concern “performing fast computation of metric queries” by “segment[ing] metric regions into disjoint primitive atomic units.” Exhibit C at Abstract. The Patent describes a metric space as “a set of elements in which there is defined a distance between any pair of elements in the set,” *id.* at 2:34–35, and describes atomic shapes as “region[s] which do[] not require additional partitioning in order to undergo off-line computation.” *Id.* at 2:16–19.

ANSWER: Admitted that this Paragraph accurately quotes the cited portions of the '013 patent. Quartz denies any remaining allegations in this Paragraph.

39. Claim 1 of the '013 Patent provides as follows:

1. A method comprising:

preparing, in anticipation of a query related to a metric space, a representation of a region to be used in forming a response to said query, said method further including the steps of:

obtaining a mathematical format of said region within said metric space;

disaggregating said region into a set of atomic shapes; and

forming the representation of said region by preprocessing and storing at least one property for at least one of said atomic shapes.

ANSWER: Admitted that this Paragraph accurately quotes claim 1 of the '013 patent.

40. Lyft does not infringe claim 1 of the '013 Patent or any claim dependent thereon at least because the activities and/or products of Lyft accused of infringing the '013 Patent, including at least Lyft's accused “Backend Query Processing,” *see* Exhibit A at 3, do not meet the limitations of claim 1 literally or under the doctrine of equivalents.

ANSWER: Denied.

41. For example, without limitation, Lyft does not “prepar[e], in anticipation of a query related

to a metric space, a representation of a region to be used in forming a response to said query” as required by claim 1 and as alleged by Quartz Auto. Contrary to Quartz Auto’s allegations, *see* Exhibit A at 6, Lyft does not have a “metric space” as defined by the ’013 Patent and Lyft does not calculate or define “a distance between any pair of elements in the set,” *see* Exhibit C at 1:52, or otherwise “preprocess” or “store” any property for any “atomic shape[.]” *See* Exhibit C at 8:42–44. At least for these reasons, Lyft does not infringe claim 1 of the ’013 Patent or any claim that depends on claim 1. The allegations in this paragraph are exemplary and do not preclude Lyft from contending that claim 1 and the claims depending from it are not infringed for additional reasons.

ANSWER: Denied.

42. Claim 21 of the ’013 Patent provides as follows:

21. A method comprising:

forming a representation of locations of a plurality of geographical regions disaggregated into atomic components;

preparing a response to a spatial query involving determination of whether a point location intersects one of said geographical regions; and

preparing a response to said spatial query involving determination of whether any of said geographical regions intersect.

ANSWER: Admitted that this Paragraph accurately quotes claim 21 of the ’013 patent.

43. Lyft does not infringe claim 21 of the ’013 Patent or any claim dependent thereon at least because the activities and/or products of Lyft accused of infringing the ’013 Patent, including at least Lyft’s accused “Backend Query Processing,” *see* Exhibit A at 3, do not meet the limitations of claim 21 literally or under the doctrine of equivalents.

ANSWER: Quartz denies that the “Backend Query Processing” was accused of infringing claim 21, literally or under the doctrine of equivalents. Quartz lacks sufficient information to form a belief as to the truth of the allegations of this Paragraph and therefore denies them.

44. For example, without limitation, Lyft does not prepare “a response to a spatial query involving determination of whether a point location intersects one of said geographical regions” as required by claim 21 and as alleged by Quartz Auto. The ’013 Patent defines “spatial query” as a “metric quer[y] in

which the units of distance measurements include feet, miles, meters, kilometers, or such, and in which regions are geographical regions.” Exhibit C at 1:54–56. The ’013 Patent further defines “metric query” as a “comparison of the relative distances of sets (and/or elements) in a metric space including container regions and containee regions.” Exhibit C at 2:36–38. Contrary to Quartz Auto’s allegations, *see* Exhibit A at 3–6, Lyft does not have a “metric space” as defined by the ’013 Patent and Lyft does not calculate or define “a distance between any pair of elements in the set,” *see* Exhibit C at 1:52, or otherwise “preprocess” or “store” any property for any “atomic shape[.]” *See* Exhibit C at 8:42–44. Consequently, Lyft does not prepare a “response to a spatial query” as required by claim 21 of the ’013 Patent. At least for these reasons, Lyft does not infringe claim 21 of the ’013 Patent or any claim that depends on claim 21. The allegations in this paragraph are exemplary and do not preclude Lyft from contending that claim 21 and the claims depending from it are not infringed for additional reasons.

ANSWER: Quartz denies that the “Backend Query Processing” was accused of infringing claim 21, literally or under the doctrine of equivalents. Quartz lacks sufficient information to form a belief as to the truth of the remaining allegations of this Paragraph and therefore denies them.

45. Claim 29 of the ’013 Patent provides as follows:

29. An apparatus comprising:

means for preparing a representation of a region in anticipation of a query related to a metric space, said representation being used in forming a response to said query;

means for obtaining a mathematical format of a region within said metric space;

means for disaggregating said region into a set of atomic shapes; and

means for forming the representation of said region by preprocessing and storing at least one property for at least one of said atomic shapes.

ANSWER: Admitted that this Paragraph accurately quotes claim 29 of the ’013 patent.

46. Lyft does not infringe claim 29 of the ’013 Patent or any claim dependent thereon at least because the activities and/or products of Lyft accused of infringing the ’013 Patent, including at least Lyft’s accused “Backend Query Processing,” *see* Exhibit A at 3, do not meet the limitations of claim 29 literally or under the doctrine of equivalents.

1 ANSWER: Quartz denies that the “Backend Query Processing” was accused of infringing claim
2 29, literally or under the doctrine of equivalents. Quartz lacks sufficient information to form a belief as to
3 the truth of the allegations of this Paragraph and therefore denies them.

4 47. For example, without limitation, Lyft does not have a “means for preparing a representation
5 of a region in anticipation of a query related to a metric space, said representation being used in forming a
6 response to said query” or a “means for obtaining a mathematical format of a region within said metric
7 space” as required by claim 29 and as alleged by Quartz Auto. Contrary to Quartz Auto’s allegations, *see*
8 Exhibit A at 3–6, Lyft does not have a “metric space” as defined by the ’013 Patent and Lyft does not
9 calculate or define “a distance between any pair of elements in the set,” *see* Exhibit C at 1:52, or otherwise
10 “preprocess” or “store” any property for any “atomic shape[.]” *See* Exhibit C at 8:42–44. Consequently,
11 Lyft does not prepare a response to a “query related to a metric space” or “obtain a mathematical format of
12 a region within said metric space” as required by claim 29 of the ’013 Patent. At least for these reasons,
13 Lyft does not infringe claim 29 of the ’013 Patent or any claim that depends on claim 29. The allegations
14 in this paragraph are exemplary and do not preclude Lyft from contending that claim 29 and the claims
15 depending from it are not infringed for additional reasons.

16 ANSWER: Quartz denies that the “Backend Query Processing” was accused of infringing claim
17 29, literally or under the doctrine of equivalents. Quartz lacks sufficient information to form a belief as to
18 the truth of the remaining allegations of this Paragraph and therefore denies them.

19 48. For at least the foregoing reasons, Lyft does not and has not infringed, directly or indirectly,
20 literally or under the doctrine of equivalents, any claim of the ’013 Patent.

21 ANSWER: Quartz denies that Lyft has not infringed, directly or indirectly, literally or under the
22 doctrine of equivalents, claims 1, 2, 5, 6, 8, 14, 16, and 20 of the ’013 patent. Quartz lacks sufficient
23 information to form a belief as to the truth of the remaining allegations of this Paragraph, including whether
24 Lyft infringes any other claim of the ’013 patent, and therefore denies them.

25 49. There is an actual, substantial, continuing, and justiciable controversy between Lyft and
26 Quartz Auto regarding whether Lyft infringes, directly or indirectly, literally or under the doctrine of
27 equivalents, any claim of the ’013 Patent.

ANSWER: Quartz admits that an actual controversy exists between Lyft and Quartz as to claims 1, 2, 5, 6, 8, 14, 16, and 20 of the '013 patent. Quartz denies that an actual controversy exists as to any other claim of the '013 patent. Quartz further denies Lyft does not infringe claims 1, 2, 5, 6, 8, 14, 16, and 20 of the '013 patent or that Lyft is entitled to any relief under this claim of its Declaratory Judgment action. Quartz lacks sufficient information to form a belief as to the truth of the remaining allegations of this Paragraph, including whether Lyft infringes any other claim of the '013 patent, and therefore denies them.

50. Accordingly, Lyft is entitled to a declaratory judgment that Lyft does not infringe, directly or indirectly, literally or under the doctrine of equivalents, any claim of the '013 Patent.

ANSWER: Quartz denies that Lyft has not infringed, directly or indirectly, literally or under the doctrine of equivalents, claims 1, 2, 5, 6, 8, 14, 16, and 20 of the '013 patent. Quartz lacks sufficient information to form a belief as to the truth of the remaining allegations of this Paragraph, including whether Lyft infringes any other claim of the '013 patent, and therefore denies them.

COUNT 2

(DECLARATORY JUDGMENT OF NON-INFRINGEMENT OF U.S. PATENT NO. 9,691,275)

51. Lyft fully incorporates paragraphs 1 through 50 as if set forth fully in this section.

ANSWER: Quartz repeats and incorporates by reference its responses to the allegations set forth in each of the paragraphs above.

52. Quartz Auto has asserted that it is the owner of the '275 Patent.

ANSWER: Admitted.

53. Quartz Auto alleges that certain activities, products, and/or services of Lyft infringe certain claims of the '275 Patent. *See* Exhibit A.

ANSWER: Quartz admits that in the claim charts found in Exhibit A, Quartz identified Lyft's platform and the algorithms implemented within its architecture, including the processing of an adapted timetable by its servers, collectively referred to as Lyft's "backend timetable processing for Lyft Line," as performing method claims 1–6 and 9–11 of the '275 patent. Quartz further admits that in its Counterclaims filed herewith, it alleges that Lyft infringes claims 1–6 and 9–11 of the '275 patent. Quartz denies any

1 remaining allegations in this Paragraph.

2 54. As a result of the acts described in the preceding paragraphs, there exists a controversy of
3 sufficient immediacy and reality regarding whether Lyft infringes the claims of the '275 Patent such that a
4 declaratory judgment of non-infringement is warranted.

5 ANSWER: Quartz admits that an actual controversy exists between Lyft and Quartz as to claims
6 1–6 and 9–11 of the '275 patent. Quartz denies that an actual controversy exists as to any other claim of
7 the '275 patent. Quartz further denies Lyft does not infringe claims 1–6 and 9–11 of the '275 patent or that
8 Lyft is entitled to any relief under any claim in its Declaratory Judgment action.

9 55. Lyft has not infringed, directly or indirectly, literally or under the doctrine of equivalents,
10 the claims of the '275 Patent by or through making, using, offering for sale, selling within the United States
11 and/or its importing of its products and/or services.

12 ANSWER: Quartz denies that Lyft has not infringed, directly or indirectly, literally or under the
13 doctrine of equivalents, claims 1–6 and 9–11 of the '275 patent. Quartz lacks sufficient information to form
14 a belief as to the truth of the remaining allegations of this Paragraph, including whether Lyft infringes any
15 other claim of the '275 patent, and therefore denies them.

16 56. The '275 Patent purports to concern “a transportation network and particularly to adjusting
17 vehicle departure times in a transportation network.” Exhibit D at 1:6–8. The '275 Patent describes
18 providing an output “in the form of an adapted timetable having one or more timing adjusted from a timing
19 of a baseline timetable” and that “can include a schedule of departures for vehicles of a transportation
20 network.” *Id.* at 12:40–45. The '275 Patent further describes the “adapted timetable can alter one or more
21 certain departure times to reduce the overall wait time of passengers,” and “an adapted timetable can yield
22 advantageous results by determining a cumulative wait time attributable to application of an adapted
23 timetable.” *Id.* at 20:53–63. According to the '275 Patent, “[a] cumulative wait time can be determined as
24 a sum of wait times at all stations of a transportation network.” *Id.* at 13:35–37.

25 ANSWER: Admitted that this Paragraph accurately quotes the cited portions of the '275 patent.
26 Quartz denies any remaining allegations in this Paragraph.

27 57. Claim 1 of the '275 Patent provides as follows:

1. A method comprising:

obtaining, by one or more processor, passenger information of one or more passenger traveling within a transportation network, wherein the passenger information includes passenger location information; and

providing, by the one or more processor, an output based on a processing of the passenger information, wherein the processing includes processing to determine an adapted timetable for providing a reduced cumulative wait time.

ANSWER: Admitted that this Paragraph accurately quotes claim 1 of the '275 patent.

58. Lyft does not infringe claim 1 of the '275 Patent or any claim dependent thereon at least because the activities and/or products of Lyft accused of infringing the '275 Patent, including at least Lyft's accused "Backend Timetable Processing," *see* Exhibit A at 14, do not meet the limitations of claim 1 literally or under the doctrine of equivalents.

ANSWER: Denied.

59. For example, without limitation, Lyft does not "provid[e], by the one or more processor, an output based on a processing of the passenger information, wherein the processing includes processing to determine an adapted timetable for providing a reduced cumulative wait time" as required by claim 1 and as alleged by Quartz Auto. *See* Exhibit A at 16. Contrary to Quartz Auto's allegation, the accused Lyft Line product paired riders with overlapping routes without using an "adapted timetable" and used matching techniques that do not rely on cumulative wait time. At least for these reasons, Lyft does not infringe claim 1 of the '275 Patent or any claim that depends on claim 1. The allegations in this paragraph are examples and do not preclude Lyft from contending that claim 1 and the claims depending from it are not infringed for additional reasons.

ANSWER: Denied.

60. Claim 12 of the '275 Patent provides as follows:

12. A computer program product comprising:

a computer readable storage device readable by one or more processing circuit and storing instructions for execution by one or more processor for performing a method comprising:

obtaining passenger information of one or more passenger traveling within a transportation network, wherein the passenger information includes passenger location information; and

1 providing one or more output based on a processing of the passenger information, wherein
2 the processing includes processing to determine an adapted timetable for providing a
3 reduced cumulative wait time.

4 ANSWER: Admitted that this Paragraph accurately quotes claim 12 of the '275 patent

5 61. Lyft does not infringe claim 12 of the '275 Patent or any claim dependent thereon at least
6 because the activities and/or products of Lyft accused of infringing the '275 Patent, including at least Lyft's
7 accused "Backend Timetable Processing," *see* Exhibit A at 14, do not meet the limitations of claim 12
8 literally or under the doctrine of equivalents.

9 ANSWER: Quartz denies that the "Backend Timetable Processing" was accused of infringing claim
10 12, literally or under the doctrine of equivalents. Quartz lacks sufficient information to form a belief as to
11 the truth of the allegations of this Paragraph and therefore denies them.

12 62. For example, without limitation, Lyft does not "provid[e] one or more output based on a
13 processing of the passenger information, wherein the processing includes processing to determine an
14 adapted timetable for providing a reduced cumulative wait time" as required by claim 12 and as alleged by
15 Quartz Auto. *See* Exhibit A at 16. Contrary to Quartz Auto's allegation, the accused Lyft Line product
16 paired riders with overlapping routes without using an "adapted timetable" and used matching techniques
17 that do not rely on cumulative wait time. At least for these reasons, Lyft does not infringe claim 12 of the
18 '275 Patent or any claim that depends on claim 12. The allegations in this paragraph are examples and do
19 not preclude Lyft from contending that claim 12 and the claims depending from it are not infringed for
20 additional reasons.

21 ANSWER: Quartz denies that the "Backend Timetable Processing" was accused of infringing claim
22 12, literally or under the doctrine of equivalents. Quartz lacks sufficient information to form a belief as to
23 the truth of the allegations of this Paragraph and therefore denies them.

24 63. Claim 17 of the '275 Patent provides as follows:

25 17. A system comprising:

26 a memory;

27 one or more processor in communication with the memory; and

28 program instructions executable by the one or more processor via the memory to

perform a method, the method comprising:

obtaining passenger information of one or more passenger traveling within a transportation network, wherein the passenger information includes passenger location information; and

providing one or more output based on a processing of the passenger information, wherein the processing includes determining one or more flow matrix, using the one or more flow matrix to determine a cumulative wait time, and determining an adapted timetable using the cumulative wait time, wherein the output includes the adapted timetable, the adapted timetable having one or more adjusted vehicle timing, and wherein the output is transmitted to a computing node of a vehicle operator of the transportation network.

ANSWER: Admitted that this Paragraph accurately quotes claim 17 of the '275 patent.

64. Lyft does not infringe claim 17 of the '275 Patent or any claim dependent thereon at least because the activities and/or products of Lyft accused of infringing the '275 Patent, including at least Lyft's accused "Backend Timetable Processing," *see* Exhibit A at 14, do not meet the limitations of claim 17 literally or under the doctrine of equivalents.

ANSWER: Quartz denies that the "Backend Timetable Processing" was accused of infringing claim 17, literally or under the doctrine of equivalents. Quartz lacks sufficient information to form a belief as to the truth of the allegations of this Paragraph and therefore denies them.

65. For example, without limitation, Lyft does not "provid[e] one or more output based on a processing of the passenger information, wherein the processing includes determining one or more flow matrix, using the one or more flow matrix to determine a cumulative wait time, and determining an adapted timetable using the cumulative wait time, wherein the output includes the adapted timetable, the adapted timetable having one or more adjusted vehicle timing, and wherein the output is transmitted to a computing node of a vehicle operator of the transportation network" as required by claim 17 and as alleged by Quartz Auto. Contrary to Quartz Auto's allegation, the accused Lyft Line product paired riders with overlapping routes without using an "adapted timetable" and used matching techniques that do not rely on cumulative wait time. At least for these reasons, Lyft does not infringe claim 17 of the '275 Patent or any claim that depends on claim 17. The allegations in this paragraph are examples and do not preclude Lyft from contending that claim 17 and the claim depending from it are not infringed for additional reasons.

1 ANSWER: Quartz denies that the “Backend Timetable Processing” was accused of infringing claim
2 17, literally or under the doctrine of equivalents. Quartz lacks sufficient information to form a belief as to
3 the truth of the allegations of this Paragraph and therefore denies them.

4 66. For at least the foregoing reasons, Lyft does not and has not infringed, directly or indirectly,
5 literally or under the doctrine of equivalents, any claims of the ’275 Patent.

6 ANSWER: Quartz denies that Lyft has not infringed, directly or indirectly, literally or under the
7 doctrine of equivalents, claims 1–6 and 9–11 of the ’275 patent. Quartz lacks sufficient information to form
8 a belief as to the truth of the remaining allegations of this Paragraph, including whether Lyft infringes any
9 other claim of the ’275 patent, and therefore denies them.

10 67. There is an actual, substantial, continuing, and justiciable controversy between Lyft and
11 Quartz Auto regarding whether Lyft infringes, directly or indirectly, literally or under the doctrine of
12 equivalents, any claim of the ’275 Patent.

13 ANSWER: Quartz admits that an actual controversy exists between Lyft and Quartz as to claims
14 1–6 and 9–11 of the ’275 patent. Quartz denies that an actual controversy exists as to any other claim of
15 the ’275 patent. Quartz further denies Lyft does not infringe claims 1–6 and 9–11 of the ’275 patent or that
16 Lyft is entitled to any relief under this claim of its Declaratory Judgment action. Quartz lacks sufficient
17 information to form a belief as to the truth of the remaining allegations of this Paragraph, including whether
18 Lyft infringes any other claim of the ’275 patent, and therefore denies them.

19 68. Accordingly, Lyft is entitled to a declaratory judgment that Lyft does not infringe, directly
20 or indirectly, literally or under the doctrine of equivalents, any claim of the ’275 Patent.

21 ANSWER: Quartz denies that Lyft has not infringed, directly or indirectly, literally or under the
22 doctrine of equivalents, claims 1–6 and 9–11 of the ’275 patent. Quartz lacks sufficient information to form
23 a belief as to the truth of the remaining allegations of this Paragraph, including whether Lyft infringes any
24 other claim of the ’275 patent, and therefore denies them.

COUNT 3**(DECLARATORY JUDGMENT OF NON-INFRINGEMENT
OF U.S. PATENT NO. 6,944,443)**

69. Lyft fully incorporates paragraphs 1 through 68 as if set forth fully in this section.

ANSWER: Quartz repeats and incorporates by reference its responses to the allegations set forth in each of the paragraphs above.

70. Quartz Auto has asserted that it is the owner of the '443 Patent.

ANSWER: Admitted.

71. Quartz Auto alleges that certain activities, products, and/or services of Lyft infringe certain claims of the '443 Patent. *See* Exhibit A.

ANSWER: Quartz admits that in the claim charts found in Exhibit A, Quartz identified Lyft's Driver and Rider Apps, which are used as part of Lyft's Platform to provide rideshare services, as performing method claims 1 and 3 of the '443 patent. Quartz further admits that in its Counterclaims filed herewith, it alleges that Lyft infringes claims 1 and 3 of the '4433 patent. Quartz denies any remaining allegations in this Paragraph.

72. As a result of the acts described in the preceding paragraphs, there exists a controversy of sufficient immediacy and reality regarding whether Lyft infringes the claims of the '443 Patent such that a declaratory judgment of non-infringement is warranted.

ANSWER: Quartz admits that an actual controversy exists between Lyft and Quartz as to claims 1 and 3 of the '443 patent. Quartz denies that an actual controversy exists as to claim 2 of the '443 patent. Quartz further denies that Lyft does not infringe claims 1 and 3 of the '443 patent or that Lyft is entitled to any relief under any claim in its Declaratory Judgment action.

73. Lyft has not infringed, directly or indirectly, literally or under the doctrine of equivalents, literally or under the doctrine of equivalents, the claims of the '443 Patent by or through making, using, offering for sale, selling within the United States and/or its importing of its products and/or services.

ANSWER: Quartz denies that Lyft has not infringed, directly or indirectly, literally or under the doctrine of equivalents, claims 1 and 3 of the '443 patent. Quartz lacks sufficient information to form a

1 belief as to the truth of the remaining allegations of this Paragraph, including whether Lyft infringes claim
2 of the '443 patent, and therefore denies them.

3 74. The '443 Patent purports to concern “notifying a user of a portable communication device”
4 by “determin[ing] . . . whether the location of the second portable communication device is within a same
5 region containing the first portable communication device.” Exhibit E at Abstract. The '443 Patent
6 describes a query to “determine[] whether the portable communication device 102B of the other group
7 member is within a threshold distance” or “determin[ing] whether the portable communication device 102B
8 of the other group member is in the same region or cell . . . as the portable communication device 102A.”
9 *Id.* at 7:28–31. The '443 Patent further describes determining “an approximate meeting location . . . for the
10 two group members with respective portable communication devices.” *Id.* at 8:14–17.

11 ANSWER: Admitted that this Paragraph accurately quotes the cited portions of the '443 patent.
12 Quartz denies any remaining allegations in this Paragraph.

13 75. Claim 1 of the '443 Patent provides as follows:

- 14 1. A method for notifying a user of a portable communication device, the method of comprising:
15 determining a location of a first portable communication device of a first user;
16 determining a location of a second portable communication device of a second user;
17 determining whether the location of the second portable communication device is
18 within a same region containing the first portable communication device;
19 notifying the first user of a presence of the second user if the location of the second
20 portable communication device is within the same region containing the first portable
21 communication device;
22 determining a common meeting point for the first and second users;
23 notifying the first user of the common meeting point on the first portable
24 communication device; and
25 notifying the second user of the common meeting point on the second portable
26 communication device.

27 ANSWER: Admitted that this Paragraph accurately quotes claim 1 of the '443 patent.

28 76. Lyft does not infringe claim 1 of the '443 Patent or any claim dependent thereon at least

1 because the activities and/or products of Lyft accused of infringing the '443 Patent, including at least Lyft's
 2 accused "Lyft Rideshare," *see* Exhibit A at 27, do not meet the limitations of claim 1 literally or under the
 3 doctrine of equivalents.

4 ANSWER: Denied.

5 77. For example, without limitation, Lyft does not "determin[e] whether the location of the
 6 second portable communication device is within a same region containing the first portable communication
 7 device" or "determin[e] a common meeting point for the first and second users" as required by claim 1 and
 8 as alleged by Quartz Auto. Contrary to Quartz Auto's allegations, the Lyft application may show drivers
 9 on the Lyft app based on factors related to a match or expected match, including an estimated time of
 10 arrival, rather than notifying a rider of the presence of a driver if the driver is "within the same region" as
 11 the rider, and users select a pick-up location when requesting a ride rather than Lyft determining a "common
 12 meeting point" as required by the claim. At least for these reasons, claim 1 is not infringed. The allegations
 13 in this paragraph are examples and do not preclude Lyft from contending that claim 1 is not infringed for
 14 additional reasons.

15 ANSWER: Denied.

16 78. Claim 2 of the '443 Patent provides as follows:

- 17 2. A method for notifying a user of a portable communication device, the method comprising:
- 18 determining whether a first user is in a group for a second user, the group being predefined
 19 and stored in a storage device;
- 20 if so, determining whether the second user has permission to location the first user;
- 21 if so, determining an approximate geographical location of the first portable communication
 22 device of the first user;
- 23 notifying the second user of the approximate geographical location of the first user;
- 24 determining a common meeting point; and
- 25 notifying the first user of the common meeting point on the first portable communication
 26 device.

26 ANSWER: Admitted that this Paragraph accurately quotes claim 2 of the '443 patent.

27 79. Lyft does not infringe claim 2 of the '443 Patent or any claim dependent thereon at least

1 because the activities and/or products of Lyft accused of infringing the '443 Patent, including at least
 2 Lyft's accused "Lyft Rideshare," *see* Exhibit A at 27, do not meet the limitations of claim 2 literally or
 3 under the doctrine of equivalents.

4 ANSWER: Quartz denies that the "Lyft Rideshare" was accused of infringing claim 2, literally or
 5 under the doctrine of equivalents. Quartz lacks sufficient information to form a belief as to the truth of the
 6 allegations of this Paragraph and therefore denies them.

7 80. For example, without limitation, Lyft does not "determin[e] whether a first user is in a group
 8 for a second user, the group being predefined and stored in a storage device" or "determin[e] a common
 9 meeting point" as required by claim 2 and as alleged by Quartz Auto. Contrary to Quartz Auto's allegations,
 10 the Lyft application may show drivers on the Lyft app based on factors related to a match or expected
 11 match, including an estimated time of arrival, but that process is not "predefined" as required by claim 2.
 12 In addition, users select a pick-up location when requesting a ride rather than Lyft determining a "common
 13 meeting point" as required by the claim. At least for these reasons, claim 2 is not infringed. The allegations
 14 in this paragraph are examples and do not preclude Lyft from contending that claim 2 is not infringed for
 15 additional reasons.

16 ANSWER: Quartz denies that the "Lyft Rideshare" was accused of infringing claim 2, literally or
 17 under the doctrine of equivalents. Quartz lacks sufficient information to form a belief as to the truth of the
 18 remaining allegations of this Paragraph and therefore denies them.

19 81. Claim 3 of the '443 Patent provides as follows:

20 3. A method for notifying a user of a portable communication device, the method comprising:

21 determining a location of a first portable communication device of a first user;

22 determining a location of a second portable communication device of a second user;

23 determining whether the first user has permission to locate the second user;

24 if so, determining whether the location of the second portable communication device
 25 is within a same region containing the first portable communication device;

26 if so, notifying the first user of the location of the second portable communication
 27 device of the second user;

28 determining a common meeting point for the first and second users;

1 notifying the first user of the common meeting point on the first portable
2 communication device; and

3 notifying the second user of the common meeting point on the second portable
4 communication device.

5 ANSWER: Admitted that this Paragraph accurately quotes claim 3 of the '443 patent.

6 82. Lyft does not infringe claim 3 of the '443 Patent or any claim dependent thereon at least
7 because the activities and/or products of Lyft accused of infringing the '443 Patent, including at least Lyft's
8 accused "Lyft Rideshare," *see* Exhibit A at 27, do not meet the limitations of claim 3 literally or under the
9 doctrine of equivalents.

10 ANSWER: Denied.

11 83. For example, without limitation, Lyft does not "determin[e] whether the location of the
12 second portable communication device is within a same region containing the first portable communication
13 device" or "determin[e] a common meeting point for the first and second users" as required by claim 3 and
14 as alleged by Quartz Auto. Contrary to Quartz Auto's allegations, the Lyft application may show drivers
15 on the Lyft app based on factors related to a match or expected match, including an estimated time of
16 arrival, rather than notifying a rider of the presence of a driver if the driver is "within a same region" as the
17 rider, and users select a pick-up location when requesting a ride rather than Lyft determining a "common
18 meeting point" as required by the claim. As another example, without limitation, Lyft does not "determin[e]
19 whether the first user has permission to locate the second user" as required by claim 3 and as alleged by
20 Quartz Auto. Contrary to Quartz Auto's allegations, Lyft does not grant riders the ability to locate drivers,
21 as the act of a driver turning on their mobile application merely opens the driver up to receiving ride
22 requests. At least for these reasons, claim 3 is not infringed. The allegations in this paragraph are examples
23 and do not preclude Lyft from contending that claim 3 is not infringed for additional reasons.

24 ANSWER: Denied.

25 84. For at least the foregoing reasons, Lyft does not and has not infringed, directly or indirectly,
26 literally or under the doctrine of equivalents, any claim of the '443 Patent.

27 ANSWER: Quartz denies that Lyft has not infringed, directly or indirectly, literally or under the
28

1 doctrine of equivalents, claims 1 and 3 of the '443 patent. Quartz lacks sufficient information to form a
 2 belief as to the truth of the remaining allegations of this Paragraph, including whether Lyft infringes claim
 3 2 of the '443 patent, and therefore denies them.

4 85. There is an actual, substantial, continuing, and justiciable controversy between Lyft and
 5 Quartz Auto regarding whether Lyft infringes, directly or indirectly, literally or under the doctrine of
 6 equivalents, any claim of the '443 Patent.

7 ANSWER: Quartz admits that an actual controversy exists between Lyft and Quartz as to claims 1
 8 and 3 of the '443 patent. Quartz denies that an actual controversy exists as to claim 2 of the '443 patent.
 9 Quartz further denies Lyft does not infringe claims 1 and 3 of the '443 patent or that Lyft is entitled to any
 10 relief under this claim of its Declaratory Judgment action. Quartz lacks sufficient information to form a
 11 belief as to the truth of the remaining allegations of this Paragraph, including whether Lyft infringes claim
 12 2 of the '443 patent, and therefore denies them.

13 86. Accordingly, Lyft is entitled to a declaratory judgment that Lyft does not infringe, directly
 14 or indirectly, literally or under the doctrine of equivalents, any claim of the '443 Patent.

15 ANSWER: Quartz denies that Lyft has not infringed, directly or indirectly, literally or under the
 16 doctrine of equivalents, claims 1 and 3 of the '443 patent. Quartz lacks sufficient information to form a
 17 belief as to the truth of the remaining allegations of this Paragraph, including whether Lyft infringes claim
 18 2 of the '443 patent, and therefore denies them.

19 COUNT 4

20 (DECLARATORY JUDGMENT OF NON-INFRINGEMENT OF 21 U.S. PATENT NO. 6,847,871)

22 87. Lyft fully incorporates paragraphs 1 through 86 as if set forth fully in this section.

23 ANSWER: Quartz repeats and incorporates by reference its responses to the allegations set forth in
 24 each of the paragraphs above.

25 88. Quartz Auto has asserted that it is the owner of the '871 Patent.

26 ANSWER: Admitted.

27 89. Quartz Auto alleges that certain activities, products, and/or services of Lyft infringe certain
 28

1 claims of the '871 Patent. *See* Exhibit A.

2 ANSWER: Quartz admits that in the claim charts found in Exhibit A, Quartz identified Lyft's
3 platform used to manage its fleet of autonomous vehicles, including the multiple infrastructure, business,
4 and/or product layers used by Lyft to implement its services, collectively referred to as Lyft's "Level 5
5 platform," as providing systems of claims 1–8, performing method claims 10–17, and providing computer
6 programs having code recorded on a computer readable medium of claims 19–26 of the '871 patent. Quartz
7 further admits that in its Counterclaims filed herewith, it alleges that Lyft infringes claims 1–8, 10–17 and
8 19–26 of the '871 patent. Quartz denies any remaining allegations in this Paragraph.

9 90. As a result of the acts described in the preceding paragraphs, there exists a controversy of
10 sufficient immediacy and reality regarding whether Lyft infringes the claims of the '871 Patent such that a
11 declaratory judgment of non-infringement is warranted.

12 ANSWER: Quartz admits that an actual controversy exists between Lyft and Quartz as to claims
13 1–8, 10–17, and 19–26 of the '871 patent. Quartz denies that an actual controversy exists as to any other
14 claim of the '871 patent. Quartz further denies Lyft does not infringe claims 1–8, 10–17, and 19–26 of the
15 '871 patent or that Lyft is entitled to any relief under any claim in its Declaratory Judgment action.

16 91. Lyft has not infringed, directly or indirectly, literally or under the doctrine of equivalents,
17 the claims of the '871 Patent by or through making, using, offering for sale, selling within the United States
18 and/or its importing of any products and/or services.

19 ANSWER: Quartz denies that Lyft has not infringed, directly or indirectly, literally or under the
20 doctrine of equivalents, claims 1–8, 10–17, and 19–26 of the '871 patent. Quartz lacks sufficient
21 information to form a belief as to the truth of the remaining allegations of this Paragraph, including whether
22 Lyft infringes any other claim of the '871 patent, and therefore denies them.

23 92. The '871 Patent purports to concern "[c]ontinuously monitoring automobile operations,
24 performance and operating conditions from the remote diagnostic centers through [c]ontinuous wireless
25 transmissions so that faults may be immediately recognized and corrected." Exhibit F at Abstract.
26 According to the '871 Patent, "[a] wireless connection is provided between the transceiver and a remote
27 station that furnishes diagnostics on automobiles based upon and responsive to an input representative of

the sensed parameters.” *Id.* at 4:64–5:1. The diagnostic center then “provides an output relative to any defective operating condition in the automobile . . . back to the automobile over the wireless path.” *Id.* at 5:1–5.

ANSWER: Admitted that this Paragraph accurately quotes the cited portions of the ’871 patent. Quartz denies any remaining allegations in this Paragraph.

93. Claim 1 of the ’871 Patent provides as follows:

1. A system for continuously monitoring and correcting operational conditions in an automobile comprising:

a plurality of sensing devices in said automobile each device for respectively continuously sensing an operational parameter of said automobile;

a wireless transmitter in said automobile for transmitting said continuously sensed parameters to a diagnostic station remote from said automobile;

apparatus in said diagnostic station for analyzing said parameters in order to determine defective operational conditions in said automobile; and

apparatus associated with said diagnostic station for wireless transmission of data relative to said determined defective operating conditions back to said automobile.

ANSWER: Admitted that this paragraph accurately quotes claim 1 of the ’871 patent.

94. Lyft does not infringe claim 1 of the ’871 Patent or any claim dependent thereon at least because the activities and/or products of Lyft accused of infringing the ’871 Patent, including at least the accused “autonomous vehicle fleet” (“Accused AV System”), *see* Exhibit A at 42, do not meet the limitations of claim 1 literally or under the doctrine of equivalents.

ANSWER: Denied.

95. For example, without limitation, the Accused AV System does not have “a wireless transmitter in [the] automobile for transmitting said continuously sensed parameters to a diagnostic station remote from said automobile” as required by claim 1 and as alleged by Quartz Auto. *See* Exhibit A at 45. Contrary to Quartz Auto’s allegations, the Accused AV System does not wirelessly transmit any “operational parameter” to a “diagnostic station remote from said automobile” as required by claim 1. In addition, the Accused AV System does not wirelessly transmit “data relative to said determined defective

operating conditions back to said automobile” as required by claim 1. No data concerning defective operating conditions is transmitted back to automobiles in the Accused AV System. At least for these reasons, Lyft does not infringe claim 1 of the ’871 Patent or any claim that depends on claim 1. The allegations in this paragraph are exemplary and do not preclude Lyft from contending that claim 1 and the claims depending from it are not infringed for additional reasons.

ANSWER: Denied.

96. Claim 10 of the ’871 Patent provides as follows:

10. A method for continuously monitoring and correcting operational conditions in an automobile comprising:

continuously sensing a plurality of operational parameters of said automobile;

wirelessly transmitting said continuously sensed parameters to a diagnostic station remote from said automobile;

analyzing said parameters in said diagnostic station in order to determine defective operational conditions in said automobile; and

wirelessly transmitting data relative to said determined defective operating conditions from said diagnostic station back to said automobile.

ANSWER: Admitted that this Paragraph accurately quotes claim 10 of the ’871 patent.

97. Lyft does not infringe claim 10 of the ’871 Patent or any claim dependent thereon at least because the activities and/or products of Lyft accused of infringing the ’871 Patent, including at least the accused “autonomous vehicle fleet” (“Accused AV System”), *see* Exhibit A at 42, do not meet the limitations of claim 10 literally or under the doctrine of equivalents.

ANSWER: Denied.

98. For example, without limitation, the Accused AV System does not “wirelessly transmitting said continuously sensed parameters to a diagnostic station remote from said automobile” as required by claim 10 and as alleged by Quartz Auto. In addition, the Accused AV System does not “wirelessly transmit[] data relative to said determined defective operating conditions from said diagnostic station back to said automobile” as required by claim 10. No data concerning defective operating conditions is transmitted back to automobiles in the Accused AV System. At least for these reasons, Lyft does not

1 infringe claim 10 of the '871 Patent or any claim that depends on claim 10. The allegations in this paragraph
 2 are exemplary and do not preclude Lyft from contending that claim 10 and the claims depending from it
 3 are not infringed for additional reasons.

4 ANSWER: Denied.

5 99. Claim 19 of the '871 Patent provides as follows:

6 19. A computer program having code recorded on a computer readable medium for
 7 continuously monitoring and correcting operational conditions in an automobile
 8 comprising:

9 means in said automobile continuously sensing each of a plurality of operational
 10 parameters of said automobile;

11 means in said automobile for transmitting said continuously sensed parameters to a
 12 diagnostic station remote from said automobile;

13 means in said diagnostic station for analyzing said parameters in order to determine
 14 defective operational conditions in said automobile; and

15 means associated with said diagnostic station for wireless transmission of data relative to
 16 said determined defective operating conditions back to said automobile.

17 ANSWER: Admitted that this Paragraph accurately quotes claim 19 of the '871 patent.

18 100. Lyft does not infringe claim 19 of the '871 Patent or any claim dependent thereon at least
 19 because the activities and/or products of Lyft accused of infringing the '871 Patent, including at least the
 20 accused "autonomous vehicle fleet" ("Accused AV System"), *see* Exhibit A at 42, do not meet the
 21 limitations of claim 19 literally or under the doctrine of equivalents.

22 ANSWER: Denied.

23 101. For example, without limitation, the Accused AV System does not "transmit[]" said
 24 continuously sensed parameters to a diagnostic station remote from said automobile" as required by claim
 25 19 and as alleged by Quartz Auto. In addition, the Accused AV System does not perform "wireless
 26 transmission of data relative to said determined defective operating conditions back to said automobile" as
 27 required by claim 19. No data concerning defective operating conditions is transmitted back to automobiles
 28 in the Accused AV System. At least for these reasons, Lyft does not infringe claim 19 of the '871 Patent
 or any claim that depends on claim 19. The allegations in this paragraph are exemplary and do not preclude

1 Lyft from contending that claim 19 and the claims depending from it are not infringed for additional
2 reasons.

3 ANSWER: Denied.

4 102. For at least the foregoing reasons, Lyft does not and has not infringed, directly or indirectly,
5 literally or under the doctrine of equivalents, any claim of the '871 Patent.

6 ANSWER: Quartz denies that Lyft has not infringed, directly or indirectly, literally or under the
7 doctrine of equivalents, claims 1–8, 10–17, and 19–26 of the '871 patent. Quartz lacks sufficient
8 information to form a belief as to the truth of the remaining allegations of this Paragraph, including whether
9 Lyft infringes any other claim of the '871 patent, and therefore denies them.

10 103. There is an actual, substantial, continuing, and justiciable controversy between Lyft and
11 Quartz Auto regarding whether Lyft infringes, directly or indirectly, literally or under the doctrine of
12 equivalents, any claim of the '871 Patent.

13 ANSWER: Quartz admits that an actual controversy exists between Lyft and Quartz as to claims
14 1–8, 10–17, and 19–26 of the '871 patent. Quartz denies that an actual controversy exists as to any other
15 claim of the '013 patent. Quartz further denies Lyft does not infringe claims 1–8, 10–17, and 19–26 of the
16 '871 patent or that Lyft is entitled to any relief under this claim of its Declaratory Judgment action. Quartz
17 lacks sufficient information to form a belief as to the truth of the remaining allegations of this Paragraph,
18 including whether Lyft infringes any other claim of the '871 patent, and therefore denies them.

19 104. Accordingly, Lyft is entitled to a declaratory judgment that Lyft does not infringe, directly
20 or indirectly, literally or under the doctrine of equivalents, any claim of the '871 Patent.

21 ANSWER: Quartz denies that Lyft has not infringed, directly or indirectly, literally or under the
22 doctrine of equivalents, claims 1–8, 10–17, and 19–27 of the '871 patent. Quartz lacks sufficient
23 information to form a belief as to the truth of the remaining allegations of this Paragraph, including whether
24 Lyft infringes any other claim of the '871 patent, and therefore denies them.

COUNT 5**(DECLARATORY JUDGMENT OF NON-INFRINGEMENT
OF U.S. PATENT NO. 7,958,215)**

105. Lyft fully incorporates paragraphs 1 through 104 as if set forth fully in this section.

ANSWER: Quartz repeats and incorporates by reference its responses to the allegations set forth in each of the paragraphs above.

106. Quartz Auto has asserted that it is the owner of the '215 Patent.

ANSWER: Admitted.

107. Quartz Auto alleges that certain activities, products, and/or services of Lyft infringe certain claims of the '215 Patent. *See Quartz Auto Technologies LLC v. Lyft, Inc.*, Civil Action No. 1-20-cv-00719 (W.D. Tex.), Compl. at 102–142, ECF No. 1; *id.*, Amended Compl. at 172–209, ECF No. 44; *Quartz Auto Technologies LLC v. Lyft, Inc.*, Civil Action No. 1-21-cv-00467 (D. Del.). Compl. at 37–44, ECF No. 1.

ANSWER: Quartz admits that in *Quartz Auto Technologies LLC v. Lyft, Inc.*, Civil Action No. 1-20-cv-00719 (W.D. Tex.), as of the time the Court dismissed its claims for improper venue, Quartz had asserted that one or more servers of the Lyft Platform perform the methods of claims 1–5, 8, 14–16 of the '215 patent. Quartz further admits that in *Quartz Auto Technologies LLC v. Lyft, Inc.*, Civil Action No. 1-21-cv-00467 (D. Del.), prior to voluntarily dismissing that action in favor of this action, Quartz had asserted that one or more servers of the Lyft Platform perform the methods of claims 3, 5–8 and 14–16 of the '215 patent against Lyft. Quartz further admits that in its Counterclaims filed herewith, it alleges that Lyft infringes claims 3, 5–8 and 14–16 of the '215 patent. Quartz denies any remaining allegations in this Paragraph.

108. As a result of the acts described in the preceding paragraphs, there exists a controversy of sufficient immediacy and reality regarding whether Lyft infringes the claims of the '215 Patent such that a declaratory judgment of non-infringement is warranted.

ANSWER: Quartz admits that an actual controversy exists between Lyft and Quartz as to claims 3, 5–8 and 14–16 of the '215 patent. Quartz denies that an actual controversy exists as to any other claim of the '215 patent. Quartz further denies Lyft does not infringe claims 3, 5–8 and 14–16 of the '215 patent or

1 that Lyft is entitled to any relief under any claim in its Declaratory Judgment action.

2 109. Lyft has not infringed, directly or indirectly, literally or under the doctrine of equivalents,
3 the claims of the '215 Patent by or through making, using, offering for sale, selling within the United States
4 and/or its importing of its products and/or services.

5 ANSWER: Quartz denies that Lyft has not infringed, directly or indirectly, literally or under the
6 doctrine of equivalents, claims 3, 5–8 and 14–16 of the '215 patent. Quartz lacks sufficient information to
7 form a belief as to the truth of the remaining allegations of this Paragraph, including whether Lyft infringes
8 any other claim of the '215 patent, and therefore denies them.

9 110. The '215 Patent purports to concern “a method of improving the response time to IT
10 problems and ensuring that some will respond to a problem.” Exhibit G at Abstract.

11 ANSWER: Admitted that this Paragraph accurately quotes the cited portions of the '215 patent.
12 Quartz denies any remaining allegations in this Paragraph.

13 111. Claim 1 of the '215 Patent provides as follows:

- 14 1. A computer-implemented method of responding to a problem condition, comprising:
15 automatically detecting availability of a first candidate to respond to a problem
16 condition;
17 responsive to the detecting:
18 automatically assigning responsibility for the problem condition to the first candidate;
19 and
20 receiving a confirmation from the first candidate indicating acceptance of responsibility
21 for the problem condition.

21 ANSWER: Admitted that this Paragraph accurately quotes claim 1 of the '215 patent.

22 112. Although Quartz Auto has disclaimed claim 1 of the '215 Patent (as well as claims 2 and
23 4), Lyft does not infringe any claim that depends on claim 1 of the '215 Patent at least because the activities
24 and/or products of Lyft accused of infringing the '215 Patent, including at least Lyft's accused servers, do
25 not meet the limitations of claim 1 literally or under the doctrine of equivalents.

26 ANSWER: Quartz admits that it has disclaimed claims 1, 2, and 4 of the '215 patent. Quartz denies
27 that Lyft's servers are accused of infringing claims 1, 2, or 4, literally or under the doctrine of equivalents.

1 Quartz denies that Lyft does not infringe asserted claim 3 of the '215 patent. Quartz lacks sufficient
 2 information to form a belief as to the truth of the remaining allegations of this Paragraph and therefore
 3 denies them.

4 113. For example, without limitation, Lyft does not perform “[a] computer-implemented method
 5 of responding to a problem condition” as required by claim 1 and as alleged by Quartz Auto. Contrary to
 6 Quartz Auto’s allegations, Lyft does not respond to “problem conditions” as required by the '215 Patent.
 7 A ride request reflecting a passenger in need of transportation is not a “problem condition” as claimed by
 8 the '215 Patent. At least for this reason, Lyft does not infringe claim 1 of the '215 Patent or any claim that
 9 depends on claim 1. The allegations in this paragraph are exemplary and do not preclude Lyft from
 10 contending that claim 1 and the claims depending from it are not infringed for additional reasons.

11 ANSWER: Quartz has not accused Lyft’s servers of infringing claims 1, literally or under the
 12 doctrine of equivalents. Quartz denies that Lyft does not infringe asserted claim 3 of the '215 patent and
 13 denies that Lyft’s servers do not perform the steps of claim 1 in connection with infringing claim 3.

14 114. Claim 5 of the '215 Patent provides as follows:

15 5. A computer-implemented method of managing an information technology device,
 16 comprising:

17 receiving an alert from a managed information technology device;

18 receiving availability information about a plurality of candidates;

19 automatically selecting a candidate qualified and available to respond to the event from
 20 among the plurality of candidates;

21 automatically assigning responsibility for the alert to the candidate; and

22 receiving a reply from the candidate indicating acceptance of responsibility for the
 alert.

23 ANSWER: Admitted that this Paragraph accurately quotes claim 5 of the '215 patent.

24 115. Lyft does not infringe claim 5 of the '215 Patent or any claim dependent thereon at least
 25 because the activities and/or products of Lyft accused of infringing the '215 Patent, including at least Lyft’s
 26 accused servers, do not meet the limitations of claim 5 literally or under the doctrine of equivalents.

27 ANSWER: Denied.

116. For example, without limitation, Lyft does not “receiv[e] an alert from a managed information technology device” as required by claim 5 and as alleged by Quartz Auto. Contrary to Quartz Auto’s allegations, Lyft does not manage “information technology devices” or receive an alert from the alleged “managed information technology devices” as required by the ’215 Patent. Customer devices running the Lyft application are not “managed information technology devices.” At least for this reason, Lyft does not infringe claim 5 of the ’215 Patent or any claim that depends on claim 5. The allegations in this paragraph are exemplary and do not preclude Lyft from contending that claim 5 and the claims depending from it are not infringed for additional reasons.

ANSWER: Denied.

117. Claim 14 of the ’215 Patent provides as follows:

14. A computer-implemented method of managing an information technology device, comprising:

receiving an alert from a managed information technology device;

automatically selecting a candidate qualified to respond to the event;

automatically determining if the candidate is available to respond to the event;

automatically sending an instant message to the candidate containing information about the alert;

receiving an instant message from the candidate indicating acceptance of responsibility for the alert; and

automatically assigning responsibility for the alert to the candidate.

ANSWER: Admitted that this Paragraph accurately quotes claim 14 of the ’215 patent.

118. Lyft does not infringe claim 14 of the ’215 Patent or any claim dependent thereon at least because the activities and/or products of Lyft accused of infringing the ’215 Patent, including at least Lyft’s accused servers, do not meet the limitations of claim 14 literally or under the doctrine of equivalents.

ANSWER: Denied.

119. For example, without limitation, Lyft does not “receiv[e] an alert from a managed information technology device” as required by claim 14 and as alleged by Quartz Auto. Contrary to Quartz Auto’s allegations, Lyft does not manage “information technology devices or receive an alert from the

1 alleged “managed information technology devices” as required by the ’215 Patent. Customer devices
 2 running the Lyft application are not “managed information technology devices.” At least for this reason,
 3 Lyft does not infringe claim 14 of the ’215 Patent or any claim that depends on claim 14. The allegations
 4 in this paragraph are exemplary and do not preclude Lyft from contending that claim 14 and the claims
 5 depending from it are not infringed for additional reasons.

6 ANSWER: Denied.

7 120. Claim 17 of the ’215 Patent provides as follows:

8 17. A computer-implemented method for assigning responsibility for responding to a fault
 9 condition in an information technology device, comprising:

- 10 (a) receiving an alert from a monitored information technology device, the alert
describing an event in the monitored information technology device;
- 11 (b) automatically detecting an available administrator qualified to respond to the
12 event; (c) automatically sending a first instant message to the available
13 administrator, the instant message referencing the alert and requesting an
acknowledgement;
- 14 (d) receiving a second instant message from the available administrator, the second
15 instant message containing the acknowledgement from the administrator; and
- 16 (e) automatically assigning responsibility for the event to the available administrator.

17 ANSWER: Admitted that this Paragraph accurately quotes claim 17 of the ’215 patent.

18 121. Lyft does not infringe claim 17 of the ’215 Patent or any claim dependent thereon at least
 19 because the activities and/or products of Lyft accused of infringing the ’215 Patent, including at least Lyft’s
 20 accused servers, do not meet the limitations of claim 17 literally or under the doctrine of equivalents.

21 ANSWER: Quartz denies that the Lyft’s servers are accused of infringing claim 17, literally or
 22 under the doctrine of equivalents. Quartz lacks sufficient information to form a belief as to the truth of the
 23 allegations of this Paragraph and therefore denies them.

24 122. For example, without limitation, Lyft does not “receiv[e] an alert from a monitored
 25 information technology device, the alert describing an event in the monitored information technology
 26 device” as required by claim 17. Contrary to Quartz Auto’s allegations, Lyft does not monitor “information
 27 technology devices” or receive an alert therefrom describing an event therein as required by the ’215 Patent.

1 Customer devices running the Lyft application are not “monitored information technology devices.” At
2 least for this reason, Lyft does not infringe claim 17 of the ’215 Patent or any claim that depends on claim
3 17. The allegations in this paragraph are exemplary and do not preclude Lyft from contending that claim
4 17 and the claims depending from it are not infringed for additional reasons.

5 ANSWER: Quartz denies that the Lyft’s servers are accused of infringing claim 17, literally or
6 under the doctrine of equivalents. Quartz lacks sufficient information to form a belief as to the truth of the
7 allegations of this Paragraph and therefore denies them.

8 123. For at least the foregoing reasons, Lyft does not and has not infringed, directly or indirectly,
9 literally or under the doctrine of equivalents, any claim of the ’215 Patent.

10 ANSWER: Quartz denies that Lyft has not infringed, directly or indirectly, literally or under the
11 doctrine of equivalents, claims 3, 5–8, and 14–16 of the ’215 patent. Quartz lacks sufficient information to
12 form a belief as to the truth of the remaining allegations of this Paragraph, including whether Lyft infringes
13 any other claim of the ’215 patent, and therefore denies them.

14 124. There is an actual, substantial, continuing, and justiciable controversy between Lyft and
15 Quartz Auto regarding whether Lyft infringes, directly or indirectly, literally or under the doctrine of
16 equivalents, any claim of the ’215 Patent.

17 ANSWER: Quartz admits that an actual controversy exists between Lyft and Quartz as to claims 3,
18 5–8 and 14–16 of the ’215 patent. Quartz denies that an actual controversy exists as to any other claim of
19 the ’215 patent. Quartz further denies Lyft does not infringe claims 3, 5–8 and 14–16 of the ’215 patent or
20 that Lyft is entitled to any relief under this claim of its Declaratory Judgment action. Quartz lacks sufficient
21 information to form a belief as to the truth of the remaining allegations of this Paragraph, including whether
22 Lyft infringes any other claim of the ’215 patent, and therefore denies them.

23 125. Accordingly, Lyft is entitled to a declaratory judgment that Lyft does not infringe, directly
24 or indirectly, literally or under the doctrine of equivalents, any claim of the ’215 Patent.

25 ANSWER: Quartz denies that Lyft has not infringed, directly or indirectly, literally or under the
26 doctrine of equivalents, claims 3, 5–8 and 14–16 of the ’215 patent. Quartz lacks sufficient information to
27 form a belief as to the truth of the remaining allegations of this Paragraph, including whether Lyft infringes

any other claim of the '215 patent, and therefore denies them.

GENERAL DENIAL

To the extent any allegation in Lyft's claims was not specifically admitted above, Quartz denies any such allegation.

QUARTZ'S AFFIRMATIVE DEFENSES

Quartz's investigation of its defenses is continuing and Quartz reserves the right to assert additional defenses under the Federal Rules of Civil Procedure, the patent laws of the United States, and any other defense at law or in equity that may now exist or be available in the future based upon discovery and further investigation in this case.

First Affirmative Defense—Lack of Subject Matter Jurisdiction

This Court lacks subject matter jurisdiction over claims 9, 18, and 27 of the '871 patent; claim 2 of the '443 patent; claims 3, 4, 7, 9–13, 15, 17–19, 21–33 of the '013 patent; claims 1, 2, 4, 9–13, and 17 of the '215 patent; and claims 7, 8, and 12–18 of the '275 patent.

Second Affirmative Defense—Failure to State a Claim

Lyft has failed to state a claim upon which relief can be granted at least because even assuming all facts recited in the First Amended Complaint are true, the First Amended Complaint fails to plead facts sufficient to show that Lyft does not infringe the asserted claims.

Third Affirmative Defense—No Entitlement to Fees or Costs

Lyft cannot prove that this case is exceptional or that it is entitled to an award of its attorneys' fees and costs pursuant to 35 U.S.C. § 285.

COUNTERCLAIMS FOR PATENT INFRINGEMENT

Counterclaim Plaintiff Quartz Auto Technologies LLC complains against Declaratory Judgment Plaintiff Lyft, Inc. ("Lyft") as follows:

THE PARTIES

1. Quartz is a Maryland limited liability company with its principal place of business located at 301 S. Fremont Ave., Baltimore, Maryland 21230.

2. On information and belief, Defendant is a Delaware corporation with its principal place of business located at 185 Berry Street, Suite 5000, San Francisco, California 94107.

NATURE OF ACTION

3. These are counterclaims for patent infringement of United States Patent Nos. 6,847,871 (“’871 Patent”), U.S. Patent No. 6,944,443 (“’443 Patent”), 7,007,013 (“’013 Patent”), 7,958,215 (“’215 Patent”) and 9,691,275 (“’275 Patent”) (collectively, the “Asserted Patents”) under the Patent Laws of the United States, 35 U.S.C. § 1, *et seq.*

JURISDICTION AND VENUE

4. This action arises under the Patent Laws of the United States, Title 35 of the United States Code. This Court has subject matter jurisdiction over this action pursuant to 28 U.S.C. §§ 1331, 1338(a), 2201, and 2202.

5. Lyft is subject to personal jurisdiction in this district at least because Lyft has submitted itself to the jurisdiction of this Court by filing the First Amended Complaint in this judicial district.

6. Venue is proper here as to these Counterclaims under 28 U.S.C. §§ 1391 and 1400 at least because Lyft filed the First Amended Complaint in this judicial district. Venue is proper in this Court for each Asserted Patent under 28 U.S.C. § 1400(b) because Lyft is subject to personal jurisdiction in this District, resides in this District, has regularly conducted business in this District, and/or has committed acts of patent infringement in this District.

THE ASSERTED PATENTS

7. On January 25, 2005, the ’871 Patent, entitled “Continuously Monitoring And Correcting Operational Conditions In Automobiles From A Remote Location Through Wireless Transmissions” was duly and legally issued by the United States Patent and Trademark Office (“USPTO”) to Nadeem Malik and Charles Gorham Ward, with the International Business Machines Corporation (“IBM”) as assignee. A copy of the ’871 Patent is attached hereto as **Exhibit A**.

8. The ’871 Patent discloses and claims a system and associated method for monitoring operational conditions in an automobile. In one embodiment, the system and an associated method allow monitoring of operational parameters of an automobile through a plurality of sensing devices. The sensing

1 devices may continuously sense an operational parameter of the automobile and transmit the parameters
2 via a wireless transmitter in the automobile to a diagnostic station, where any defective operational
3 conditions may be determined. Data regarding a defective operational condition may then be transmitted
4 back to the automobile.

5 9. On September 13, 2005, the '443 Patent, entitled "Method, Apparatus And System For
6 Notifying A User Of A Portable Wireless Device" was duly and legally issued by the USPTO to Cary Lee
7 Bates and John Matthew Santosuosso, with IBM as assignee. A copy of the '443 Patent is attached hereto
8 as **Exhibit B**.

9 10. The '443 Patent discloses and claims a method for notifying a user of a portable
10 communication device of the presence of a second user of a portable communication device. In one
11 embodiment, if the location of the second communication device is within a same region containing the
12 first portable communication device, a common meeting point is determined for the first and second users,
13 and each user is notified of the common meeting point. In another embodiment, the first user must also
14 have permission to locate the second user before a determination is made regarding the respective locations
15 of the devices or regarding determining and notifying the users of a common meeting point.

16 11. On February 28, 2006, the '013 Patent, entitled "Fast Computation of Spatial Queries In
17 Location-Based Services" was duly and legally issued by the USPTO to John Sidney Davis, II and Daby
18 Mousse Sow, with IBM as assignee. A copy of the '013 Patent is attached hereto as **Exhibit C**.

19 12. The '013 Patent discloses and claims methods for performing fast computation of metric
20 queries. The disclosed methods reduce the time it takes for a computer to output a response to a query by
21 creating a representation of a geographic region that allows for more rapid and efficient processing of the
22 query. In particular, the '013 Patent discloses preparing a representation of a region by the steps of:
23 obtaining a mathematical format of the region, disaggregating the region into a set of atomic shapes, and
24 forming the representation of the region by preprocessing and storing at least one property for at least one
25 of the atomic shapes. The representation is prepared in anticipation of a query related to the metric space.
26
27
28

1 13. On June 7, 2011, the '215 Patent, entitled "System Management Using Real Time
2 Collaboration" was duly and legally issued by the USPTO to David Gerard Herbeck and Susette Marie
3 Townsend, with IBM as assignee. A copy of the '215 Patent is attached hereto as **Exhibit D**.

4 14. The '215 Patent discloses and claims a number of variations of computer-implemented
5 embodiments for responding to a problem condition or managing an information technology device that
6 receives an alert. In particular, the '215 Patent discloses management methods and systems using real-time
7 collaboration and instant messaging technology to manage alerts and assign responsibility.

8 15. On June 27, 2017, the '275 Patent, entitled "Adjusting Vehicle Timing In A Transportation
9 Network," was duly and legally issued by the USPTO to Tobias Ephraim Dannat, Andreas Kuehmichel,
10 Tim Scheideler, Matthias Seul, and Thomas Allen Snellgrove, with IBM as assignee. A copy of the '275
11 Patent is attached hereto as **Exhibit E**.

12 16. The '275 Patent discloses and claims methods for obtaining passenger information of one
13 or more passengers traveling within a transportation network and providing one or more outputs based
14 upon processing that passenger information. In one embodiment, the '275 Patent discloses a method for
15 obtaining passenger information of one or more passengers traveling with a transportation network,
16 wherein the passenger information includes passenger location information. The disclosed method then
17 involves processing the passenger location information to determine an adapted timetable for providing a
18 reduced cumulative wait time.

19 17. Quartz is the owner of the entire right, title, and interest in and to the Asserted Patents,
20 including the right to sue for and collect past, present, and future damages and to seek and obtain injunctive
21 or any other relief for infringement of the Asserted Patents. The Asserted Patents were originally owned
22 by and assigned to IBM, as assignee from the inventors thereof. IBM transferred ownership of the Asserted
23 Patents to Daedalus Group, LLC pursuant to a Patent Assignment Agreement entered into on September
24 30, 2019. Through Quartz's immediate predecessor in interest, Slingshot IOT LLC, all right, title, and
25 interest in and to the '871 and '275 Patents were assigned to Quartz on or about February 12, 2020; all
26 right, title and interest in and to the '215 Patent were assigned to Quartz on or about February 14, 2020;

1 and all right, title and interest in and to the '013 and '443 Patents were assigned to Quartz on or about
2 March 28, 2021.

3 **LYFT'S INFRINGING METHODS AND SYSTEMS**

4 18. Lyft has represented that it has developed and implements one of the largest transportation
5 networks in the United States, operating in hundreds of unique markets. On information and belief, Lyft
6 employs hundreds of thousands of drivers in its transportation network. Lyft utilizes this network of drivers
7 and in certain markets, a fleet of autonomous vehicles, to offer, coordinate, and control, among other things,
8 ride-hailing services that are powered by its technology platform ("Lyft Platform"). Lyft also uses the Lyft
9 Platform to offer, coordinate, and control rentals from its network of shared bikes and scooters ("Light
10 Vehicles") in select markets.

11 19. On information and belief, Lyft uses servers in its network in combination with Lyft-
12 developed driver and consumer mobile applications to operate, direct, and control on-demand ride-hailing
13 and Light Vehicle rental services. For the purposes of these Counterclaims, the term "Lyft Platform"
14 encompasses all such hardware, applications, and functionalities and any related Lyft technologies that
15 interact with the Lyft server systems and software applications to provide on-demand ride-hailing and Light
16 Vehicle rental services. The specific components of the Lyft Platform that provide the structure and/or
17 functionality and/or perform method steps recited in the asserted claims of the Asserted Patents are
18 identified in the relevant counts below.

19 20. Quartz alleges that Lyft drivers are employees of Lyft for purposes of the acts of
20 infringement alleged herein, for at least the reasons that: (i) Lyft is a transportation company whose ride-
21 hailing business is that of transporting passengers for compensation, and drivers perform work that is
22 central, not tangential, to the usual course of Lyft's entire ride-hailing business, which would not be a
23 viable business without its drivers; (ii) the performance of that work is not free from the control and
24 direction of Lyft; (iii) Lyft sets drivers' qualification standards, solicits applications, conducts background
25 checks on applicants, engages certain applicants as drivers while rejecting others, and enters into standard
26 form contracts with drivers; (iv) drivers cannot build own their own passenger client base—they must take
27 rides provided by Lyft via the Driver app; (v) drivers cannot fix prices and Lyft sets all prices; (vi) Lyft

prescribes rules regarding car maintenance and manners that must be followed; (vii) Lyft handles all payment processing; and (viii) Lyft approves driver applications and can cancel use of the platform by particular drivers and/or impose sanctions on drivers.

21. In addition to the autonomous vehicles being used for ride-hailing services in select markets described above, Lyft has also developed its own self-driving system for its network, referred to as “Level 5.” On information and belief, the Level 5 Platform controls the use of an automated driving system or component thereof based on the presence or absence of specific conditions under which the system or a component thereof is designed to function. Generally, the Level 5 Platform ensures that the automobile is safe to operate in various operational design domains (“ODD”) and will modify or maintain the operating state of the automobile upon sensing its condition. On information and belief, Lyft has developed and integrated a self-driving stack, including cameras, radar and lidar sensors, and proprietary software, into vehicles that Lyft operates, directs, and controls as autonomous vehicles in its Level 5 network. On information and belief, Lyft entered into one or more agreements with Woven Planet Holdings, Inc. on or around July 21, 2021, through which Lyft sold its “Level 5” division to Woven Planet but through which it also will continue to develop and use autonomous driving technology. For the purposes of this Complaint, the term “Level 5 Platform” encompasses all such hardware, applications, and functionalities and any related Lyft technologies that interact with the Lyft self-driving stack to provide autonomous vehicle services. The specific components of the Level 5 Platform that provide the structure and/or functionality and/or perform method steps recited in the asserted claims of the Asserted Patents are identified in the relevant counts below.

FIRST COUNTERCLAIM

(Infringement of the ’871 Patent)

22. Quartz repeats and realleges the allegations of the above Paragraphs 1–21, which are incorporated by reference as if fully restated herein.

23. Quartz is the owner of all rights, title, and interest in the ’871 Patent and, at a minimum, of all substantial rights in the ’871 Patent, including the exclusive right to enforce the patent and all rights to

1 pursue damages, injunctive relief, and all other available remedies for past, current, and future infringement
2 thereof.

3 24. Quartz and its predecessors in interest have never licensed Lyft under the '871 Patent, nor
4 has Quartz otherwise authorized Lyft to practice any part of the '871 Patent claims.

5 25. The '871 Patent is presumed valid under 35 U.S.C. § 282.

6 26. On information and belief, Lyft, alone and/or in conjunction with agents or parties under its
7 control, has directly infringed and continues to directly infringe the '871 Patent pursuant to 35 U.S.C. §
8 271(a), either literally or under the doctrine of equivalents, by making, having made, and using systems
9 and methods for monitoring operational conditions in autonomous automobiles operating as part of the
10 Level 5 Platform that are covered by one or more claims of the '871 Patent, in particular, at least claims 1–
11 8, 10–17, and 19–26, without license or authority. In addition, on information and belief, Lyft, alone and/or
12 in conjunction with agents or parties under its control, has directly infringed and continues to directly
13 infringe the '871 Patent pursuant to 35 U.S.C. § 271(a), either literally or under the doctrine of equivalents,
14 by using methods for monitoring operational conditions of automobiles operating as part of the Lyft
15 Platform that are covered by one or more claims of the '871 Patent, in particular, at least claims 10, 14, and
16 15 without license or authority. The full scope of infringed claims cannot be determined from information
17 publicly available from Lyft and will be confirmed in discovery. Notice of the factual basis of Quartz's
18 allegations of infringement of the '871 Patent is provided below.

19 27. Independent claim 1 of the '871 Patent recites:

20 *A system for continuously monitoring and correcting operational conditions in an*
21 *automobile comprising:*

22 *a plurality of sensing devices in said automobile each device for respectively*
23 *continuously sensing an operational parameter of said automobile;*

24 *a wireless transmitter in said automobile for transmitting said continuously sensed*
25 *parameters to a diagnostic station remote from said automobile;*

26 *apparatus in said diagnostic station for analyzing said parameters in order to*
27 *determine defective operational conditions in said automobile; and*

28 *apparatus associated with said diagnostic station for wireless transmission of data*
relative to said determined defective operating conditions back to said automobile.

28. On information and belief, the Level 5 Platform, using the specific components identified on a limitation-by-limitation basis below, comprises the claimed system. Specifically, and as alleged in the following paragraphs, the self-driving stack and the servers of the Level 5 Platform used in connection with Lyft's autonomous automobile fleet provide the components of this system claim. On information and belief, some components of this system claim are provided by base automobiles such as a Ford Fusion or a Chrysler Pacifica in which Lyft has installed and configured its own hardware and/or software modules to enable communication at least with other parts of Lyft's Level 5 Platform.

29. On information and belief, the Level 5 Platform includes a self-driving stack developed by Lyft. The self-driving stack includes a plurality of sensing devices for continuously sensing operational parameters of the automobiles. Specifically, the self-driving stack includes at least a sensor suite having cameras, radar and lidar sensors, and proprietary software. On information and belief, the self-driving stack also integrates with a plurality of vehicle electronic control units ("ECUs") that include sensors for monitoring other operational parameters of the automobiles. Lyft's risk-based testing approach continually monitors for unknown, uncontrolled, or not-yet-identified risks such as system faults.

30. On information and belief, the self-driving stack of the Level 5 Platform includes a wireless transmitter for transmitting the operational parameters of the automobile continuously sensed by the plurality of sensing devices. The wireless transmitter is adapted to send the data regarding the operational parameters to one or more servers within the Level 5 Platform (a diagnostic station) that are remote from the automobile for analysis (either during, upon detecting a specific condition, and/or after operation).

31. On information and belief, the Level 5 Platform includes an apparatus in the diagnostic station for analyzing the sensed data to determine if there is a defective operational condition in the automobile. On information and belief, one or more servers within the Level 5 Platform monitors safety-critical aspects of the automobile's operation in order to detect system failures and respond accordingly. For example, industry standards describe that autonomous automobiles operating at levels 4 and 5 may allow a user, whether in the car or remote therefrom, to perform driving tasks after performance-relevant system failures(s) or upon an operational design domain exit. On information and belief, one or more Lyft servers are be used to determine the operating condition of the automobile. On information and belief,

1 certain system failures may not require aborting autonomous driving mode altogether but may limit the
2 operational design domains in which Lyft's autonomous automobiles may safely operate. In such cases,
3 the determined defective operating condition may be used to limit the operational design domains in which
4 the automobile may operate. Thus, the diagnostic station of the Level 5 Platform necessarily includes an
5 apparatus for analyzing the continuously sensed parameters in order to determine defective operational
6 conditions in the automobile.

7 32. On information and belief, the Level 5 Platform includes an apparatus associated with the
8 diagnostic station for wirelessly transmitting data relative to a determined defective operation condition
9 from the diagnostic station back to the automobile. On information and belief, the server is operable to
10 send data that brings the automobile into a safe operating state, or that prevents the automobile from
11 operating in unsafe operational design domains. Such operation is consistent with industry best practices
12 for fleet connected automobiles such as those automobiles operating on Lyft's Level 5 Platform, which
13 contemplate communications from a fleet operations center or other remote source of ODD-relevant data
14 that dictate whether the autonomous automobile can safely operate in its present ODD, as well as
15 communications to the automobile indicating whether it should restart and resume its trip or go to a
16 different location or take some other corrective action if a defective operating condition is detected.

17 33. With respect to dependent claims 2 and 3, on information and belief, the self-driving stack
18 of the Level 5 Platform includes an apparatus for correcting a defective operational condition by limiting
19 or changing the operation of the automobile. That apparatus is operated according to Lyft's proprietary
20 software installed in the autonomous automobile and can correct defective operating conditions by at least
21 controlling the state of the autonomous features of the automobile or by receiving and processing data that
22 result in the automobile entering a safe state. On information and belief, in response to receiving data
23 related to a defective operating condition, a module of the Level 5 Platform within the automobile will be
24 activated to cause the automobile to correct the defective operating condition. In one scenario, the Level 5
25 Platform may respond to the data corresponding to the defective operating condition by restarting the
26 automobile or changing its destination. On information and belief, the system takes at least some corrective
27 measures to corrective a defective condition in a manner that is transparent to the operator.

34. With respect to dependent claim 4, on information and belief, Lyft integrates its self-driving stack into base automobiles (such as Ford Fusions and Chrysler Pacificas) that operate according to its Level 5 Platform. Lyft's self-driving stack contains a number of embedded processors and, on information and belief, integrates with embedded processors of the base automobile such as embedded processors associated with ECUs native to the base automobile. Thus, an automobile of Lyft's Level 5 platform contains a plurality of embedded data processors for controlling automobile operations, such as one or more of steering, accelerating or decelerating, monitoring tire pressure, or sensing the environment. On information and belief, because the system is configured for self-monitoring the system can detect defective operating conditions within the embedded data processors, such as a functioning error associated with the lidar or radar sensors.

35. With respect to dependent claims 5–7, the system includes a human machine interface (an output device) for informing the operator of the defective operating conditions, including dangerous operating conditions. The HMI includes visual and audio outputs.

36. With respect to dependent claim 8, on information and belief, the Level 5 Platform includes an apparatus in the automobile that may limit the operation of the autonomous automobile to only those operational design domains that are safe given the presence of the defective condition by, for example, rerouting the automobile.

37. Independent claim 10 of the '871 Patent recites:

A method for continuously monitoring and correcting operational conditions in an automobile comprising:

continuously sensing a plurality of operational parameters of said automobile;

wirelessly transmitting said continuously sensed parameters to a diagnostic station remote from said automobile;

analyzing said parameters in said diagnostic station in order to determine defective operational conditions in said automobile; and

wirelessly transmitting data relative to said determined defective operating conditions from said diagnostic station back to said automobile.

1 38. On information and belief, the Level 5 Platform, using the specific components identified
2 on a limitation-by-limitation basis below, performs the claimed method. Specifically, and as alleged in the
3 following paragraphs, the self-driving stack and the servers of the Level 5 Platform used in connection with
4 Lyft's autonomous vehicle fleet perform the steps of this method claim such that Lyft itself performs all of
5 the claim steps and is a direct infringer.

6 39. On information and belief, sensing devices that are a part of the self-driving stack of the
7 Level 5 Platform continuously sense a plurality of operational parameters of an automobile. Specifically,
8 the sensors include at least a sensor suite having cameras and radar and lidar sensors. On information and
9 belief, the self-driving stack also integrates with a plurality of vehicle ECUs that monitor additional
10 operational parameters of the automobiles. Lyft's risk-based testing approach continually monitors for
11 unknown, uncontrolled, or not-yet-identified risks such as system faults.

12 40. On information and belief, a wireless transmitter of the self-driving stack of the Level 5
13 Platform wirelessly transmits the continuously sensed parameters. The wireless transmitter is adapted to
14 send the data regarding the operational parameters to one or more servers within the Level 5 Platform (a
15 diagnostic station) that are remote from the automobile for analysis (either during, upon detecting a specific
16 condition, and/or after operation).

17 41. On information and belief, one or more servers within the Level 5 Platform analyzes the
18 continuously sensed parameters to determine if there is a defective operational condition in the automobile.
19 On information and belief, the one or more servers monitor safety-critical aspects of the automobile's
20 operation in order to detect system failures and respond accordingly. For example, industry standards
21 describe that autonomous automobiles operating at levels 4 and 5 may allow a user, whether in the car or
22 remote therefrom, to perform driving tasks after performance-relevant system failures(s) or upon an
23 operational design domain exit. On information and belief, one or more Lyft servers are be used to
24 determine the operating condition of the automobile. On information and belief, certain system failures
25 may not require aborting autonomous driving mode altogether but may limit the operational design
26 domains in which Lyft's autonomous automobiles may safely operate. In such cases, the determined
27 defective operating condition may be used to limit the operational design domains in which the automobile

1 may operate. Thus, the diagnostic station of the Level 5 Platform necessarily includes an apparatus for
2 analyzing the continuously sensed parameters in order to determine defective operational conditions in the
3 automobile.

4 42. On information and belief, a wireless transmitter of the Level 5 Platform wirelessly
5 transmits data relative to a determined defective operation condition from the diagnostic station back to the
6 automobile. On information and belief, the server is operable to send data that brings the automobile into
7 a safe operating state, or that prevents the automobile from operating in unsafe operational design domains.
8 Such operation is consistent with industry best practices for fleet connected automobiles such as those
9 automobiles operating on Lyft's Level 5 Platform, which contemplate communications from a fleet
10 operations center or other remote source of ODD-relevant data that dictate whether the autonomous
11 automobile can safely operate in its present ODD, as well as communications to the automobile indicating
12 whether it should restart and resume its trip or go to a different location or take some other corrective action
13 if a defective operating condition is detected.

14 43. With respect to dependent claims 11 and 12, on information and belief, the accused method
15 includes the step of correcting a defective operational condition by limiting and/or changing the operation
16 of the automobile. That apparatus is operated according to Lyft's proprietary software installed in the
17 autonomous automobile and can correct defective operating conditions by at least controlling the state of
18 the autonomous features of the automobile or by receiving and processing data that result in the automobile
19 entering a safe state. On information and belief, in response to receiving data related to a defective operating
20 condition, a module of the Level 5 Platform within the automobile will be activated to cause the automobile
21 to correct the defective operating condition. In one scenario, the Level 5 Platform may respond to the data
22 corresponding to the defective operating condition by restarting the automobile or changing its destination.
23 On information and belief, the system takes at least some corrective measures to corrective a defective
24 condition in a manner that is transparent to the operator

25 44. With respect to dependent claim 13, on information and belief, Lyft integrates its self-
26 driving stack into base automobiles (such as Ford Fusions and Chrysler Pacificas) that operate according
27 to its Level 5 Platform. The Lyft self-driving stack contains a number of embedded processors that, on

information and belief, integrate with embedded processors associated with ECUs in the base automobiles. Thus, an automobile includes a plurality of embedded data processors for controlling automobile operations, such as steering, accelerating or decelerating, or sensing the environment. On information and belief, because the system is configured for self-monitoring, the system can detect defective operating conditions within the embedded data processors, such as a functioning error associated with the lidar or radar sensors.

45. With respect to dependent claims 14–16, the accused method includes the step of informing the operator by visual and/or audio outputs in the HMI of the defective operating conditions, including dangerous operating conditions.

46. With respect to dependent claim 17, on information and belief, the accused method includes the step of limiting the operation of the autonomous automobile to only those operational design domains that are safe given the presence of the defective condition by, for example, rerouting the automobile.

47. Independent claim 19 of the '871 Patent recites:

A computer program having code recorded on a computer readable medium for continuously monitoring and correcting operational conditions in an automobile comprising:

means in said automobile continuously sensing each of a plurality of operational parameters of said automobile;

means in said diagnostic station for analyzing said parameters in order to determine defective operational conditions in said automobile; and

means associated with said diagnostic station for wireless transmission of data relative to said determined defective operating conditions back to said automobile.

48. Independent claim 19 corresponds to independent claim 1 but describes the invention in terms of a computer program product rather than as a system. The allegations with respect to claim 1 also provide reasonable notice of how the elements of claim 19 correspond to the relevant software components of the accused system.

49. Dependent claims 20–26 correspond to dependent claims 2–8, respectively, but describe the invention in terms of a computer program product rather than as a system. The allegations with respect to

1 claims 2–8 also provide reasonable notice of how the additional limitations of claims 20–26 correspond to
2 the relevant software components of the accused system.

3 50. With respect to the asserted method claims, and to the extent that any of the asserted system
4 claims or computer program product claims are treated as method claims for the purpose of assessing the
5 alleged acts of infringement, Quartz alleges that Lyft has been and is engaged in direct infringing activities
6 because all steps of the claimed methods are performed by the self-driving stack software, server-side
7 software, and/or network of the Level 5 Platform and Lyft is the entity that owns or controls and operates
8 such software, servers, and network. On information and belief, Quartz further alleges that Lyft has and
9 continues to use the accused methods for development, testing, and/or training purposes.

10 51. With respect to the asserted system claims and/or computer program product claims, Quartz
11 alleges that Lyft has been and is engaged in direct infringing activities by making, having made, and using
12 the self-driving stack software, server-side software, and/or network of the Level 5 Platform and Lyft is
13 the entity that owns or controls and operates such software, servers, and network. On information and
14 belief, Quartz further alleges that Lyft has and continues to make and use the accused systems for
15 development, testing, and/or training purposes.

16 52. On information and belief, the Lyft Platform, using the specific components identified on a
17 limitation-by-limitation basis below, performs the method of claim 10. Specifically, and as alleged in the
18 following paragraphs, Lyft’s servers and its Driver app running on its drivers’ mobile devices, perform the
19 steps of this method claim. Quartz alleges that the drivers are Lyft employees such that Lyft itself performs
20 all of the claim steps as a direct infringer. If Lyft’s drivers are instead Lyft’s independent contractors or
21 agents, Lyft directly infringes this claim as a joint infringer with its drivers, each of which act under Lyft’s
22 direction and control, as alleged further herein. Lyft’s servers and its Rider app running on its riders’ mobile
23 devices also perform the steps of this method claim. Lyft directly infringes this claim as a joint infringer
24 with its riders, each of which act under Lyft’s direction and control, as alleged further herein.

25 53. On information and belief, the Driver app and the Rider apps running on the mobile devices
26 of the Lyft’s drivers and riders, respectively, continuously sense a plurality of operational parameters of an
27 automobile that is being used for a Lyft ride. For instance, on information and belief, operational parameters

1 including at least drop-off location and an amount of time in which the automobile is not moving during a
2 ride are monitored using sensors of the phones on which the Driver app and Rider app are installed in
3 connection with Lyft's Smart Trip Check-In Feature.

4 54. On information and belief, the Driver app and the Rider app cause the respective mobile
5 devices to wirelessly transmit sensed parameters to a Lyft server, which is remote from the automobile.

6 55. On information and belief, the Lyft server analyzes the parameters in order to determine
7 defective operational conditions such as whether a ride has ended with a drop-off location that is far from
8 the initially-indicated destination location or whether an automobile has stopped for longer than a threshold
9 amount of time during an on-going ride.

10 56. On information and belief, the Lyft server wirelessly transmits message data to the Driver
11 and Rider apps of the driver and rider in the automobile that asks whether the driver or rider, respectively,
12 need support or assistance.

13 57. With respect to dependent claim 14, and 15, on information and belief, the message
14 transmitted from the Lyft server to the Driver app includes information that informs the driver (the operator)
15 that the server has detected that a ride has ended with a drop-off location that is far from the initially-
16 indicated destination location or that the automobile stopped for longer than a threshold amount of time
17 during an on-going ride.

18 58. With respect to method claims 10, 14, and 15 as asserted against the Lyft Platform, Quartz
19 alleges that Lyft has been and is engaged in direct infringing activities because all steps of the claimed
20 method are performed by or attributable to Lyft as a single entity. In particular, Quartz alleges that the steps
21 of the accused ride-hailing methods performed by the Driver application of the Lyft Platform are performed
22 by the mobile devices of Lyft drivers, and that such drivers are Lyft employees, such that their actions
23 constitute acts performed by Lyft. The steps of the asserted claims performed by the server-side software
24 and/or network of the Lyft Platform are also performed by Lyft as the entity that owns or controls and
25 operates such servers and network. On information and belief, Quartz further alleges that other Lyft
26 employees, such as product development and testing engineers or driver support personnel, have and
27 continue to use the accused methods for development, testing, and/or demonstration purposes.

59. Quartz pleads in the alternative that, to the extent that Lyft drivers are independent contractors or agents rather than employees, Lyft is responsible as a direct infringer because Lyft has and continues to perform the server-side steps and Lyft has and continues to direct and control the steps performed on the drivers' mobile devices such that those steps are also attributable to Lyft under principles of joint infringement. Lyft is liable as a direct infringer of the asserted method claims by at least one or more of: (i) acting through drivers who are agents of Lyft with respect to the transportation services provided to riders; (ii) contracting with its drivers to perform ride-hailing services that require performance of one or more steps of the claimed methods; and (iii) conditioning the drivers' participation in Lyft's transportation services and receipt of payment upon the performance of one or more steps of the claimed methods and establishing the manner or timing of that performance.

60. Lyft has and continues to practice infringing methods by at least providing, operating, and controlling the accused methods via the Lyft Platform computer systems and software developed, owned, and provided by Lyft, which Lyft designed to perform the methods covered by the asserted patent claims. Lyft directs and controls the method steps performed by drivers by (i) prescreening and authorizing select individuals to serve as drivers in its transportation network on behalf of Lyft; (ii) supplying the Driver app for accessing and controlling the Lyft Platform, which must be used by drivers to initiate and control the Lyft Platform throughout the entire lifecycle of each ride; (iii) dictating via software supplied to the drivers' mobile devices and instructions to the drivers the manner in which the Driver app operates and must be used such that, when the accused method is initiated on a driver's mobile device, each step of the asserted method claims is performed in a manner dictated by the accused Lyft Platform; (iv) dictating the terms and conditions upon which drivers are paid for their services and retaining the ability to terminate a driver's access to and use of the Lyft Platform if not used in accordance with Lyft's required terms; (v) advertising the Lyft Platform and its transportation arrangement services and providing instructions and directions to drivers regarding the use of the Driver app; and (vi) updating and providing ongoing support and maintenance for the accused Lyft Platform and its methodologies.

61. Lyft conditions its drivers' use of its transportation services network upon the performance of the steps performed by the Driver app, and Lyft establishes the manner or timing of its drivers'

1 performance. Lyft requires its drivers to contractually agree to terms and conditions that provide the drivers
2 a limited license to use the Driver app only in conjunction with Lyft's ride-hailing network. Drivers must
3 download the Driver app to their mobile devices and utilize the Driver app, including performing the
4 specific claim steps executed by the Driver app identified above, if they wish to participate in Lyft's ride-
5 hailing transportation network and services. Lyft provides step-by-step instructions and support to its
6 drivers telling them how to utilize the Driver app if the driver wants to pick up and transport passengers in
7 Lyft's transportation network. Those instructions, and the integrated sequence of events that must be
8 performed for a driver to invoke use of the Lyft Platform and be matched with riders and directed to the
9 rider's pick-up and destination locations, establishes the manner or timing of the drivers' performance of
10 the claimed method steps. If drivers do not follow these precise steps, Lyft's services of matching drivers
11 to passengers and coordinating the lifecycle of rides requests are not available.

12 62. Lyft also directs and controls the method steps performed by passengers using the Rider app
13 by at least (i) supplying the Rider app for accessing and controlling the Lyft Platform, which must be used
14 by passengers to initiate a ride request and control the Lyft Platform throughout the entire lifecycle of each
15 ride; (ii) dictating via software supplied to the passenger's mobile device and instructions to the passengers
16 the manner in which the Rider app operates and must be used such that when the accused method is initiated
17 on a passenger's mobile device each step of the asserted method claims is performed in a manner dictated
18 by the accused Lyft Platform; (iii) advertising the Lyft Platform and its transportation arrangement services
19 and providing instructions and directions to passengers regarding the use of the accused Rider app; and
20 (iv) updating and providing ongoing support and maintenance for the accused Lyft Platform and its
21 methodologies.

22 63. Lyft conditions passengers' use of its transportation services network upon the performance
23 of the steps performed by Rider app, and Lyft establishes the manner or timing of the passengers'
24 performance. Lyft requires its passengers to contractually agree to terms and conditions that provide the
25 passengers a limited license to use the Rider app only in conjunction with Lyft's ride-hailing network.
26 Passengers must download the Rider app to their mobile devices and utilize the Rider app, including
27 performing the specific claim steps executed by the Rider app identified above, if they wish to use Lyft's

ride-hailing transportation network and services. Lyft provides step-by-step instructions and support to its passengers telling them how to utilize the Rider app to secure a ride in Lyft's transportation network. Those instructions, and the integrated sequence of events that must be performed for a passenger to invoke use of the Lyft Platform and be matched with and picked up by the selected driver, establishes the manner or timing of the passengers' performance of the claimed method steps. If passengers do not follow these precise steps, Lyft's services of matching drivers to passengers and coordinating the lifecycle of rides requests are not available.

64. Lyft benefits by providing the Lyft Platform to attract and retain riders and drivers to increase its revenue. The drivers also receive a benefit of receiving payment from Lyft from using the Driver app and transporting passengers to their destinations, and passengers receive the benefit of convenient transportation.

65. As a result of Lyft's infringement of at least claims 1–8, 10–17, and 19–26 of the '871 Patent, Quartz has suffered monetary damages in an amount yet to be determined and will continue to suffer damages in the future. Lyft is liable to Quartz in an amount that adequately compensates for such infringement, which, by law, cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

66. Lyft's wrongful acts have damaged and will continue to damage Quartz irreparably, and Quartz has no adequate remedy at law for those wrongs and injuries. In addition to its actual damages, Quartz is entitled to a permanent injunction restraining and enjoining Lyft and its agents, servants, and employees, and all persons acting thereunder, in concert with, or on its behalf, from infringing at least claims 1–8, 10–17, and 19–26 of the '871 Patent without additional compensation to Quartz in an amount to be determined by the Court.

SECOND COUNTERCLAIM

(Infringement of the '443 Patent)

67. Quartz repeats and realleges the allegations of the above Paragraphs 1–66, which are incorporated by reference as if fully restated herein.

68. Quartz is the owner of all rights, title, and interest in the '443 Patent and, at a minimum, of all substantial rights in the '443 Patent, including the exclusive right to enforce the patent and all rights to pursue damages, injunctive relief, and all other available remedies for past, current, and future infringement thereof.

69. Quartz and its predecessors in interest have never licensed Lyft under the '443 Patent, nor has Quartz otherwise authorized Lyft to practice any part of the '443 Patent claims.

70. The '443 Patent is presumed valid under 35 U.S.C. § 282.

71. On information and belief, Lyft, alone and/or in conjunction with agents or parties under its control, has directly infringed and continues to directly infringe the '443 Patent pursuant to 35 U.S.C. § 271(a), either literally or under the doctrine of equivalents, by using methods for coordinating, controlling, and providing on-demand ride-hailing services that are covered by one or more claims of the '443 Patent, in particular, at least claims 1 and 3, without license or authority. The full scope of infringed claims cannot be determined from information publicly available from Lyft and will be confirmed in discovery. Notice of the factual basis of Quartz's allegations of infringement of the '443 Patent is provided below.

72. Independent claim 1 of the '443 Patent recites:

A method for notifying a user of a portable communication device, the method of comprising:

determining a location of a first portable communication device of a first user;

determining a location of a second portable communication device of a second user;

determining whether the location of the second portable communication device is within a same region containing the first portable communication device;

notifying the first user of a presence of the second user if the location of the second portable communication device is within the same region containing the first portable communication device;

determining a common meeting point for the first and second users;

notifying the first user of the common meeting point on the first portable communication device; and

notifying the second user of the common meeting point on the second portable

1 *communication device.*

2 73. On information and belief, the Lyft Platform, using the specific components identified on a
 3 limitation-by-limitation basis below, performs the accused method. Specifically, and as alleged in the
 4 following paragraphs, Lyft's servers, the Driver app running on its drivers' mobile devices, and the Rider
 5 app running on its customers' mobile devices perform the steps of this method claim. Quartz alleges that
 6 the drivers are Lyft employees such that any steps performed by the Driver app are attributable to Lyft, and
 7 Lyft directly infringes this claim as a joint infringer with its riders, each of which act under Lyft's direction
 8 and control, as alleged further herein. If Lyft's drivers are instead Lyft's independent contractors or agents,
 9 Lyft directly infringes this claim as a joint infringer with its drivers and riders, each of which act under
 10 Lyft's direction and control, as alleged further herein.

11 74. On information and belief, the Rider app running on a rider's mobile device periodically
 12 determines a current location of a mobile computing device of the rider, utilizing GPS, WiFi, or other
 13 sensor data generated by the mobile device. Similarly, the Driver app running on a driver's mobile device
 14 periodically determines a current location of a mobile computing device of the driver, utilizing GPS, WiFi,
 15 or other sensor data generated by the mobile device. A rider and driver may be first and second users,
 16 respectively, and their mobile devices may be first and second portable communication devices,
 17 respectively. On information and belief, the determined location data may, at least in some instances, be
 18 further processed on a Lyft server for more accurate location determination and/or for determining the
 19 location in a coordinate system used by the server software. The determined location of the mobile device
 20 of the driver may then be used for driver/rider matching and display in the Rider and Driver applications.

21 75. On information and belief, one or more servers of the Lyft Platform determines whether the
 22 location of the second portable communication device is within a same region containing the first portable
 23 communication device as part of its matching process. In particular, the matching process generally
 24 matches a rider with a driver that is close by (within a same region).

25 76. . On information and belief, the one or more servers transmit data to the first portable
 26 communications device providing notice of the locations of the mobile devices of nearby drivers, and the
 27 Rider app running on a rider's mobile device notifies the rider of nearby drivers by displaying car icons on

1 a map showing the drivers' relative locations as well as the rider's location. Drivers outside of the region
2 will not be displayed, and the rider will not be notified of their presence.

3 77. On information and belief, one or more servers of the Lyft Platform determines where the
4 driver should pick-up the rider (a common meeting point for the first and second users). In some instances,
5 when a rider requests a ride using the Rider app, the one or more servers will set the rider's current location
6 as the pick-up location or will select a suitable pick-up location near the rider's current location. In other
7 instances, such as when the pick-up location is at an airport, the one or more servers will set the pick-up
8 location at a designated pickup area. In each instance, one or more servers determines the common meeting
9 point for the rider and driver.

10 78. On information and belief, the one or more servers provides notification of the pick-up
11 location to the rider (the first user) via the Rider app running on a rider's mobile device notifies the rider
12 (the first user). Similarly, the one or more servers provide notification of the pick-up location to the driver
13 (the second user) via the Driver app running on a driver's mobile device.

14 79. Independent claim 3 of the '443 Patent recites:

15 *A method for notifying a user of a portable communication device, the method*
16 *comprising:*

17 *determining a location of a first portable communication device of a first user;*

18 *determining a location of a second portable communication device of a second*
19 *user;*

20 *determining whether the first user has permission to locate the second user;*

21 *if so, determining whether the location of the second portable communication*
22 *device is within a same region containing the first portable communication device;*

23 *if so, notifying the first user of the location of the second portable communication*
24 *device of the second user;*

25 *determining a common meeting point for the first and second users;*

26 *notifying the first user of the common meeting point on the first portable*
27 *communication device; and*

28 *notifying the second user of the common meeting point on the second portable*
communication device.

1 80. On information and belief, the Lyft Platform, using the specific components identified on a
2 limitation-by-limitation basis below, performs the accused method. Specifically, and as alleged in the
3 following paragraphs, Lyft's servers, the Driver app running on its drivers' mobile devices, and the Rider
4 app running on its customers' mobile devices perform the steps of this method claim. Quartz alleges that
5 the drivers are Lyft employees such that any steps performed by the Driver app are attributable to Lyft, and
6 Lyft directly infringes this claim as a joint infringer with its riders, each of which act under Lyft's direction
7 and control, as alleged further herein. If Lyft's drivers are instead Lyft's independent contractors or agents,
8 Lyft directly infringes this claim as a joint infringer with its drivers and riders, each of which act under
9 Lyft's direction and control, as alleged further herein.

10 81. On information and belief, the Rider app running on a rider's mobile device periodically
11 determines a current location of a mobile computing device of the rider, utilizing GPS, WiFi, or other
12 sensor data generated by the mobile device. Similarly, the Driver app running on a driver's mobile device
13 periodically determines a current location of a mobile computing device of the driver, utilizing GPS, WiFi,
14 or other sensor data generated by the mobile device. A rider and driver may be first and second users,
15 respectively, and their mobile devices may be first and second portable communication devices,
16 respectively. On information and belief, the determined location data may, at least in some instances, be
17 further processed on a Lyft server for more accurate location determination and/or for determining the
18 location in a coordinate system used by the server software. The determined location of the mobile device
19 of the driver may then be used for driver/rider matching and display in the Rider and Driver applications.

20 82. On information and belief, one or more servers of the Lyft Platform determines whether a
21 rider has permission to locate a driver. The one or more servers uses algorithms to match drivers with ride
22 requests and coordinate the pick-up and drop-off of riders. To be matched with a rider, a driver must have
23 gone online in the Driver app, allowing the one or more servers to determine that the driver is now accepting
24 ride requests, and as part of the matching process, giving permission for a rider to locate the driver when
25 making a ride request.

26 83. On information and belief, one or more servers of the Lyft Platform determines whether the
27 location of the second portable communication device is within a same region containing the first portable

1 communication device as part of its matching process. In particular, the matching process generally
2 matches a rider with a driver that is close by (within a same region).

3 84. On information and belief, the one or more servers transmit data to the first portable
4 communications device providing notice of the locations of the mobile devices of nearby drivers, and the
5 Rider app running on a rider's mobile device notifies the rider of nearby drivers by displaying car icons on
6 a map showing the drivers' relative locations as well as the rider's location. Drivers that are offline and
7 drivers that are outside of the region will not be displayed, and the rider will not be notified of their
8 presence.

9 85. On information and belief, one or more servers of the Lyft Platform determines where the
10 driver should pick-up the rider (a common meeting point for the first and second users). In some instances,
11 when a rider requests a ride using the Rider app, the one or more servers will set the rider's current location
12 as the pick-up location or will select a suitable pick-up location near the rider's current location. In other
13 instances, such as when the pick-up location is at an airport, the one or more servers will set the pick-up
14 location at a designated pickup area. In each instance, one or more servers determines the common meeting
15 point for the rider and driver

16 86. On information and belief, the one or more servers provides notification of the pick-up
17 location to the rider (the first user) via the Rider app running on the rider's mobile device. Similarly, the
18 one or more servers provide notification of the pick-up location to the driver (the second user) via the
19 Driver app running on a driver's mobile device.

20 87. Quartz alleges that Lyft has been and is engaged in direct infringing activities because all
21 steps of the claimed methods are performed by or attributable to Lyft as a single entity. Lyft has and
22 continues to practice infringing methods by at least providing, operating, and controlling the accused
23 methods via the Lyft Platform computer systems and software developed, owned, and provided by Lyft,
24 which Lyft designed to perform the methods covered by the asserted patent claims.

25 88. In particular, Quartz alleges that the steps of the asserted claims performed by the server-
26 side software and/or network of the Lyft Platform are performed by Lyft as the entity that owns or controls
27 and operates such servers and network. The steps performed by the Rider app of the Lyft Platform are

1 performed by the mobile devices of Lyft's riders, which are attributable to Lyft under principles of joint
2 infringement, as alleged below. The steps performed by the Driver app of the Lyft Platform are performed
3 by the mobile devices of Lyft drivers, and such drivers are Lyft employees such that their actions constitute
4 acts performed by Lyft, as alleged below.

5 89. The steps performed by the riders using the Rider app are attributable to Lyft because Lyft
6 directs and controls such performance by at least (i) supplying the Rider app for accessing and controlling
7 the Lyft Platform, which must be used by passengers to initiate a ride request and control the Lyft Platform
8 throughout the entire lifecycle of each ride; (ii) dictating via software supplied to the riders' mobile devices
9 and instructions to the riders the manner in which the Rider app operates and must be used such that, when
10 the accused method is initiated on a rider's mobile device, each step of the asserted method claims is
11 performed in a manner dictated by the accused method; (iii) advertising the Lyft Platform and its
12 transportation arrangement services and providing instructions and directions to riders regarding the use of
13 the Rider app; and (iv) updating and providing ongoing support and maintenance for the accused Lyft
14 Platform and its methodologies.

15 90. Lyft conditions riders' use of its transportation services network upon the performance of
16 the steps performed by Rider app, and Lyft establishes the manner or timing of the riders' performance.
17 Lyft requires its riders to contractually agree to terms and conditions that provide the riders a limited license
18 to use the Rider app only in conjunction with Lyft's ride-hailing network. Riders must download the Rider
19 app to their mobile devices and utilize the Rider app, including performing the specific claim steps executed
20 by the Rider app identified above, if they wish to use Lyft's ride-hailing transportation network and
21 services. Lyft provides step-by-step instructions and support to its riders telling them how to utilize the
22 Rider app to secure a ride in Lyft's transportation network. Those instructions, and the integrated sequence
23 of events that must be performed for a passenger to invoke use of the Lyft Platform and be matched with
24 and picked-up by the selected driver, establishes the manner or timing of the rider's performance of the
25 claimed method steps. If riders do not follow these precise steps, Lyft's services of matching drivers to
26 riders and coordinating the ride requests are not available.

1 91. As alleged above, Quartz pleads that Lyft drivers are Lyft employees. Quartz pleads in the
2 alternative that, to the extent that Lyft drivers are independent contractors or agents rather than employees,
3 Lyft is responsible as a direct infringer because Lyft has and continues to direct and control the steps
4 performed on the drivers' mobile devices such that those steps are also attributable to Lyft under principles
5 of joint infringement. Lyft is liable as a direct infringer of the asserted method claims by at least one or
6 more of: (i) acting through drivers who are agents of Lyft with respect to the transportation services
7 provided to riders; (ii) contracting with its drivers to perform ride-hailing services that require performance
8 of one or more steps of the claimed methods; and (iii) conditioning the drivers' participation in Lyft's
9 transportation services and receipt of payment upon the performance of one or more steps of the claimed
10 methods and establishing the manner or timing of that performance.

11 92. Lyft directs and controls the method steps performed by drivers by (i) prescreening and
12 authorizing select individuals to serve as drivers in its transportation network on behalf of Lyft; (ii)
13 supplying the Driver app for accessing and controlling the Lyft Platform, which must be used by drivers to
14 initiate and control the Lyft Platform throughout the entire lifecycle of each ride; (iii) dictating via software
15 supplied to the drivers' mobile devices and instructions to the drivers the manner in which the Driver app
16 operates and must be used such that when the accused method is initiated on a driver's mobile device each
17 step of the asserted method claims is performed in a manner dictated by the accused Lyft Platform;
18 (iv) dictating the terms and conditions upon which drivers are paid for their services and retaining the
19 ability to terminate a driver's access to and use of the Lyft Platform if not used in accordance with Lyft's
20 required terms; (v) advertising the Lyft Platform and its transportation arrangement services and providing
21 instructions and directions to drivers regarding the use of the Driver app; and (vi) updating and providing
22 ongoing support and maintenance for the accused Lyft Platform and its methodologies.

23 93. Lyft conditions its drivers' use of its transportation services network upon the performance
24 of the steps performed by the Driver app, and Lyft establishes the manner or timing of its drivers'
25 performance. Lyft requires its drivers to contractually agree to terms and conditions that provide the drivers
26 a limited license to use the Driver app only in conjunction with Lyft's ride-hailing network. Drivers must
27 download the Driver app to their mobile devices and utilize the Driver app, including performing the

1 specific claim steps executed by the Driver app identified above, if they wish to participate in Lyft's ride-
2 hailing transportation network and services. Lyft provides step-by-step instructions and support to its
3 drivers telling them how to utilize the Driver app if the driver wants to pick up and transport passengers in
4 Lyft's transportation network. Those instructions, and the integrated sequence of events that must be
5 performed for a driver to invoke use of the Lyft Platform and be matched with riders and directed to the
6 rider's pick-up and destination locations, establishes the manner or timing of the drivers' performance of
7 the claimed method steps. If drivers do not follow these precise steps, Lyft's services of matching drivers
8 to passengers and coordinating the lifecycle of rides requests are not available.

9 94. Lyft benefits by providing the Lyft Platform to attract and retain riders and drivers to
10 increase its revenue. The drivers receive a benefit of receiving payment from Lyft from using the Driver
11 app and transporting passengers to their destinations, and passengers receive the benefit of convenient
12 transportation.

13 95. On information and belief, Quartz further alleges that other Lyft employees, such as product
14 development and testing engineers or driver support personnel, have and continue to use the accused
15 methods for development, testing, and/or demonstration purposes.

16 96. As a result of Lyft's infringement of at least claims 1 and 3 of the '443 Patent, Quartz has
17 suffered monetary damages in an amount yet to be determined and will continue to suffer damages in the
18 future. Lyft is liable to Quartz in an amount that adequately compensates for such infringement, which, by
19 law, cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under
20 35 U.S.C. § 284.

21 97. Lyft's wrongful acts have damaged and will continue to damage Quartz irreparably, and
22 Quartz has no adequate remedy at law for those wrongs and injuries. In addition to its actual damages,
23 Quartz is entitled to a permanent injunction restraining and enjoining Lyft and its agents, servants, and
24 employees, and all persons acting thereunder, in concert with, or on its behalf, from infringing at least
25 claims 1 and 3 of the '443 Patent without additional compensation to Quartz in an amount to be determined
26 by the Court.

THIRD COUNTERCLAIM

(Infringement of the '013 Patent)

98. Quartz repeats and realleges the allegations of the above Paragraphs 1–97, which are incorporated by reference as if fully restated herein.

99. Quartz is the owner of all rights, title, and interest in the '013 Patent and, at a minimum, of all substantial rights in the '013 Patent, including the exclusive right to enforce the patent and all rights to pursue damages, injunctive relief, and all other available remedies for past, current, and future infringement thereof.

100. Quartz and its predecessors in interest have never licensed Lyft under the '013 Patent, nor has Quartz otherwise authorized Lyft to practice any part of the '013 Patent.

101. The '013 Patent is presumed valid under 35 U.S.C. § 282.

102. On information and belief, Lyft, alone and/or in conjunction with agents or parties under its control, has directly infringed and continues to directly infringe the '013 Patent pursuant to 35 U.S.C. § 271(a), either literally or under the doctrine of equivalents, by using methods for coordinating, controlling, and providing ride-hailing, ridesharing, Light Vehicle rental, and other services that are covered by one or more claims of the '013 Patent, in particular, at least claims 1, 2, 5, 6, 8, 14, 16, and 20 without license or authority. The full scope of infringed claims cannot be determined from information publicly available from Lyft and will be confirmed in discovery. Notice of the factual basis of Quartz's allegations of infringement of the '013 Patent is provided below.

103. Independent claim 1 of the '013 Patent recites:

A method comprising:

preparing, in anticipation of a query related to a metric space, a representation of a region to be used in forming a response to said query, said method further including the steps of:

obtaining a mathematical format of said region within said metric space;

disaggregating said region into a set of atomic shapes; and

forming the representation of said region by preprocessing and storing at least one property for at least one of said atomic shapes.

1 104. On information and belief, one or more servers of the Lyft Platform perform the accused
2 method. Specifically, and as alleged in the following paragraphs, Lyft's servers perform the steps of this
3 method claim such that Lyft itself performs all of the claim steps and is a direct infringer. One
4 representative example of Lyft's performance of this method claim relates to the process its servers use
5 when matching riders with drivers.

6 105. On information and belief, one or more Lyft servers process queries, such as spatial queries,
7 related to regions of interest. Lyft's proprietary algorithms implemented on its servers use a metric to
8 determine distances between riders and drivers. Together the set of riders and drivers and the metric used
9 to determine the distance between those riders and drivers define a metric space.

10 106. In anticipation of a query related to that metric space, one or more Lyft servers prepare a
11 representation of a region to be used in forming a response to the query. For instance, a circle of a certain
12 radius originating from a center point is a region that may be used in forming a response to a query. A
13 collection of geohash cells that overlap the circular region are determined and are a representation of the
14 region. This representation is formed in anticipation of a query on the circle defined by the certain radius.
15 Regions of interest having other than circular geometries are also supported.

16 107. On information and belief, one or more Lyft servers obtain a mathematical format of a
17 region within said metric space. For instance, in the case of a circular region, the one or more servers
18 necessarily obtains the mathematical format of the circular region in the metric space for use in determining
19 which geohash cells fully or partially overlap the region.

20 108. On information and belief, one or more Lyft servers disaggregates the region into a set of
21 atomic shapes by identifying the geohash cells that overlap the circle. The geohash cells can be of various
22 sizes such that they approximate the region to the extent of precision desired.

23 109. On information and belief, one or more Lyft servers forms a representation of the region by
24 preprocessing and storing at least one property for at least one of the atomic shapes. For example, a property
25 for a geohash cell (an atomic shape) may be the identity of drivers within the cell area during a time interval.
26 Another property may be a timestamp reflecting the recency of the driver's location data. These properties
27 may be preprocessed and stored to make subsequent query processing more rapid and efficient.

1 110. For example, to answer a query related to a rider desiring a ride from a nearby driver, the
2 one or more servers determine the geohash cells that cover a radius surrounding the driver. the one or more
3 servers can quickly identify a set of candidate drivers to choose from by looking up the identity of drivers
4 most recently present within the geohash cells that represent the region in the vicinity of the rider.

5 111. On information and belief, the Lyft servers are operable to similarly form representations
6 of other regions of interest and disaggregate the regions into a set of geohash cells representing the region,
7 while associating various properties with the geohash cells, to support faster and more efficient processing
8 of other types of queries relating to a metric space. On information and belief, Lyft has deployed this
9 approach and continues to deploy this approach in connection with tracking and managing users and assets
10 in connection with its Light Vehicle rental service as well.

11 112. With respect to dependent claim 2, on information and belief, the accused method comprises
12 prioritizing an atomic shape according to at least a prioritization criterion of time. As one example, and as
13 alleged above, one or more servers may identify drivers in the geohash cells that represent the region; such
14 geohash cells may also have time information associated with them. On information and belief, the one or
15 more servers sorts and prioritizes based upon the most recent timestamp. On information and belief, other
16 prioritization criteria may include proximity of a geohash cell to the region or number of drivers in a
17 geohash cell.

18 113. With respect to dependent claim 5, on information and belief, the queries related to the
19 metric space are spatial queries. The '013 patent explains that a spatial query is a metric query in which the
20 units of distance measurements include feet, miles, meters, or kilometers, or such, and in which regions are
21 geographical regions. In other words, spatial queries are queries that relate to distance in a geographic
22 region. Thus, an example of a spatial query used by the one or more Lyft servers includes when a distance
23 metric is used determine matches between a driver and a rider in a geographic region.

24 114. With respect to dependent claim 6, on information and belief, the mathematical format of at
25 least some types of regions is represented by data maintained on the one or more servers that includes a
26 sequence of vertices defining the location and shape of the region.

1 115. With respect to dependent claim 8, on information and belief, the Lyft servers use at least
2 rectangular geohash cells, which are atomic shapes.

3 116. With respect to dependent claim 14, on information and belief, the properties that can be
4 associated with the geohash cells include at least one static property, such as regulations or other region-
5 specific characteristics that are not continuously changing.

6 117. With respect to dependent claim 16, on information and belief, the one or more servers
7 forms a response to the query. For instance, in the example of a rider requesting a ride, a response may
8 include data identifying a driver selected from a geohash cell located near the requesting rider.

9 118. With respect to dependent claim 20, the one or more servers of the Lyft Platform necessarily
10 include program storage readable by the one or more servers and tangibly embodying a program of
11 instructions executable by the server machine to perform the method steps of claim 1 performed as
12 described above.

13 119. Quartz alleges that Lyft has been and is engaged in direct infringing activities because all
14 steps of the claimed methods are performed by the server-side software and/or network of the Lyft Platform
15 and Lyft is the entity that owns or controls and operates such servers and network. On information and
16 belief, Quartz further alleges that Lyft has and continues to use the accused methods for development,
17 testing, and/or training purposes.

18 120. As a result of Lyft's infringement of at least claims 1, 2, 5, 6, 8, 14, 16, and 20 of the '013
19 Patent, Quartz has suffered monetary damages in an amount yet to be determined and will continue to
20 suffer damages in the future. Lyft is liable to Quartz in an amount that adequately compensates for such
21 infringement, which, by law, cannot be less than a reasonable royalty, together with interest and costs as
22 fixed by this Court under 35 U.S.C. § 284.

23 121. Lyft's wrongful acts have damaged and will continue to damage Quartz irreparably, and
24 Quartz has no adequate remedy at law for those wrongs and injuries. In addition to its actual damages,
25 Quartz is entitled to a permanent injunction restraining and enjoining Lyft and its agents, servants, and
26 employees, and all person acting thereunder, in concert with, or on its behalf, from infringing at least claims
27

1 1, 2, 5, 6, 8, 14, 16, and 20 of the '013 Patent without additional compensation to Quartz in an amount to
2 be determined by the Court.

3 **FOURTH COUNTERCLAIM**

4 **(Infringement of the '215 Patent)**

5 122. Quartz repeats and realleges the allegations of the above Paragraphs 1–121, which are
6 incorporated by reference as if fully restated herein.

7 123. Quartz is the owner of all rights, title, and interest in the '215 Patent and, at a minimum, of
8 all substantial rights in the '215 Patent, including the exclusive right to enforce the patent and all rights to
9 pursue damages, injunctive relief, and all other available remedies for past, current, and future infringement
10 thereof.

11 124. Quartz and its predecessors in interest have never licensed Lyft under the '215 Patent, nor
12 has Quartz otherwise authorized Lyft to practice any part of the '215 Patent.

13 125. The '215 Patent is presumed valid under 35 U.S.C. § 282.

14 126. On information and belief, Lyft, alone and/or in conjunction with agents or parties under its
15 control, has directly infringed and continues to directly infringe the '215 Patent pursuant to 35 U.S.C.
16 § 271(a), either literally or under the doctrine of equivalents, by using methods for coordinating,
17 controlling, and providing on-demand delivery services that are covered by one or more claims of the '215
18 Patent, in particular, at least claims 3, 5–8 and 14–16 without license or authority. The full scope of
19 infringed claims cannot be determined from information publicly available from Lyft and will be confirmed
20 in discovery. Notice of the factual basis of Quartz's allegations of infringement of the '215 Patent is
21 provided below.

22 127. Asserted claim 3 of the '215 Patent incorporates steps of non-asserted claims 1 and 2.

23 128. Claim 1 of the '215 Patent recites:

24 *A computer-implemented method of responding to a problem condition, comprising:*

25 *automatically detecting availability of a first candidate to respond to a problem*
26 *condition;*

27 *responsive to the detecting:*

*automatically assigning responsibility for the problem condition to the first candidate;
and*

*receiving a confirmation from the first candidate indicating acceptance of
responsibility for the problem condition.*

129. Claim 2 of the '215 Patent recites:

*The method of claim 1, wherein assigning responsibility for the problem condition
comprises sending a real time message to the first candidate.*

130. Claim 3 of the '215 Patent recites:

*The method of claim 2, further comprising:
if the confirmation is not received within a selected period:
detecting availability of a second candidate; and
assigning responsibility for the problem condition to the second candidate.*

131. With respect to dependent claim 3, including the incorporated steps of the base claims 1 and 2, on information and belief, one or more servers of the Lyft Platform perform a method of responding to a problem condition i.e., a ride request reflecting a passenger in need of transportation. Specifically, and as alleged in the following paragraphs, Lyft's servers perform the steps of this method claim such that Lyft itself performs all of the claim steps and is a direct infringer.

132. On information and belief, a server of the Lyft Platform automatically detects availability of a first candidate to respond to a problem condition. Specifically, in response to rider submitting a ride request using the Lyft Platform (a problem condition), a server of the Lyft Platform detects which drivers nearby the rider's pick-up location have gone online indicating availability to respond to ride requests in the vicinity of riders.

133. On information and belief, a server of the Lyft Platform, responsive to the detecting of an available driver that can most efficiently respond to the request, automatically assigns responsibility for the ride request to that first candidate driver, notifying the driver of a ride request.

134. On information and belief, a server of the Lyft Platform receives a confirmation if the first candidate driver accepts the ride request by clicking "Accept" in the Driver app. The confirmation is

transmitted from the Driver app of the driver's mobile device and indicates acceptance by the driver of responsibility for resolving the problem condition, i.e., by picking up the driver.

135. A server of the Lyft Platform assigns responsibility for the ride request by sending a real-time notification containing basic details about the ride request to the first candidate driver.

136. On information and belief, a server of the Lyft Platform detects availability of a second candidate driver if a confirmation from the first candidate driver is not received within a set time period or if the ride request is declined. The server of the Lyft Platform then assigns responsibility for the ride request to the second candidate driver.

137. Claim 5 of the '215 Patent recites:

A computer-implemented method of managing an information technology device, comprising:

receiving an alert from a managed information technology device;

receiving availability information about a plurality of candidates;

automatically selecting a candidate qualified and available to respond to the event from among the plurality of candidates;

automatically assigning responsibility for the alert to the candidate; and

receiving a reply from the candidate indicating acceptance of responsibility for the alert.

138. On information and belief, one or more servers of the Lyft Platform perform a method of managing an information technology device. The servers communicate with the Driver app to perform a computer implemented method for ride-hailing services. As part of that method, Lyft servers receive, manage, and respond to incoming requests from the Rider app installed on a rider's smartphone. Specifically, and as alleged in the following paragraphs, Lyft's servers perform the steps of this method claim such that Lyft itself performs all of the claim steps and is a direct infringer.

139. On information and belief, a server of the Lyft Platform receives an alert from a managed information technology device (e.g., a smartphone with the Rider app installed) containing information about a ride request event.

1 140. On information and belief, a server of the Lyft Platform receives availability information
2 about a plurality of drivers who are candidates to respond to and fulfill the ride request event. In particular,
3 the Driver app notifies the server that a driver is available when the driver is online and available to pick-
4 up riders. The Driver app also periodically provides a current location of the driver's mobile computing
5 device, which the server uses to determine if the driver is nearby the rider's pick-up location.

6 141. On information and belief, a server of the Lyft Platform automatically selects a candidate
7 driver qualified and available to respond to the ride request event from among the plurality of candidates.
8 The matching methodology determines if the candidate is available by checking whether the driver is
9 online, whether the driver is sufficiently nearby the pick-up location to qualify to handle the ride request
10 within the required time frame, and whether the driver meets qualifications selected by a rider, such as
11 meeting the specified Lyft product class (Lyft, Shared, Lyft XL, Lyft Lux, etc.).

12 142. On information and belief, a server of the Lyft Platform automatically assigns responsibility
13 for the ride request alert to the selected first candidate driver.

14 143. A server also transmits a notification to the driver via the Driver app indicating assignment
15 of responsibility for the delivery, which may be accepted or declined. On information and belief, if the first
16 candidate driver accepts the delivery request, a server of the Lyft Platform receives a reply transmitted
17 from the Driver app of the driver's mobile device indicating acceptance of responsibility for the alert.

18 144. With respect to dependent claim 6, a candidate driver is not selected to receive responsibility
19 for the alert unless the driver has gone online indicating his/her availability. In this manner, the method
20 uses the availability information as part of the selecting.

21 145. With respect to dependent claim 7, a server of the Lyft Platform receives availability
22 information from a plurality of drivers who have gone online in the Driver app. The matching algorithm
23 determines if each candidate is available and qualified by checking whether the driver is online and nearby
24 the pick-up location and whether s/he meets qualifications selected by a rider, such as Lyft product class
25 (together, a plurality of qualified candidates). The matching algorithm then chooses one candidate from
26 this plurality of qualified candidates.

1 146. With respect to dependent claim 8, on information and belief, the matching methodology
 2 performed by the server determines which of multiple potential candidate drivers is closest to the managed
 3 device of the rider, i.e., the rider's smartphone.

4 147. Claim 14 of the '215 Patent recites:

5 *A computer-implemented method of managing an information technology device,*
 6 *comprising:*

7 *receiving an alert from a managed information technology device;*

8 *automatically selecting a candidate qualified to respond to the event;*

9 *automatically determining if the candidate is available to respond to the event;*

10 *automatically sending an instant message to the candidate containing information*
 11 *about the alert;*

12 *receiving an instant message from the candidate indicating acceptance of*
 13 *responsibility for the alert; and*

14 *automatically assigning responsibility for the alert to the candidate.*

15 148. On information and belief, one or more servers of the Lyft Platform performs a method of
 16 managing an information technology device. The one or more servers communicate with the Driver app to
 17 perform a computer implemented method for ride-hailing services. As part of that method, Lyft servers
 18 receive, manage, and respond to incoming ride requests from the Rider app installed on a rider's smartphone,
 19 by which Lyft manages an information technology device. Specifically, and as alleged in the following
 20 paragraphs, Lyft's servers perform the steps of this method claim such that Lyft itself performs all of the
 21 claim steps and is a direct infringer.

22 149. On information and belief, a server of the Lyft Platform receives an alert from a managed
 23 information technology device (e.g., a smartphone with the Rider app installed) containing information
 24 about a ride request event.

25 150. On information and belief, a server of the Lyft Platform automatically selects a candidate
 26 driver qualified to respond to the ride request event from among a plurality of candidates. The matching
 27 methodology determines if the candidate is available by checking whether the driver is online and nearby
 28 the pick-up location, and whether the driver is sufficiently nearby to handle the ride request in the time

1 required and meets qualifications selected by a rider, such as meeting the specified Lyft product class (Lyft,
2 Shared, Lyft XL, Lyft Lux, etc.).

3 151. On information and belief, a server of the Lyft Platform automatically determines if the
4 candidate is available to respond to the event. In particular, the server receives availability information
5 about a plurality of drivers who are candidates to respond to and fulfill the ride request. When a driver goes
6 online, the Driver app notifies the server that the driver is online and available to pick-up riders. The Driver
7 app also periodically provides a current location of the driver's mobile computing device, which the server
8 uses to determine if the driver is nearby the rider's pick-up location.

9 152. On information and belief, a server of the Lyft Platform automatically sends an instant
10 message to the Driver app of the mobile device of candidate driver containing information about the alert,
11 such as how far away the pick-up location is.

12 153. On information and belief, a server of the Lyft Platform receives a reply transmitted from
13 Driver app of the driver's mobile device indicating acceptance of responsibility for the alert, if the first
14 candidate driver accepts the ride request.

15 154. On information and belief, a server of the Lyft Platform automatically assigns responsibility
16 for the ride request alert to the selected first candidate driver, which the driver can accept using the Driver
17 app.

18 155. With respect to dependent claim 15, on information and belief, a server of the Lyft Platform
19 detects a second candidate qualified to respond and the availability of the second candidate driver if the
20 confirmation from the first candidate driver is not received within a selected time period. The Lyft Platform
21 server then assigns responsibility for the ride request to the second candidate driver.

22 156. With respect to dependent claim 16, on information and belief, the determining of whether
23 a candidate driver is available includes detecting an online presence in an instant messaging system. The
24 drivers must have gone online within the Driver app to receive ride request instant messages and send
25 responsive messages.

26 157. Quartz alleges that Lyft has been and is engaged in direct infringing activities because all
27 steps of the claimed methods are performed by the server-side software and/or network of the Lyft Platform

1 and Lyft is the entity that owns or controls and operates such servers and network. On information and
 2 belief, Quartz further alleges that Lyft has and continues to use the accused methods for development,
 3 testing, and/or training purposes.

4 158. As a result of Lyft's infringement of at least claims 3, 5–8 and 14–16, Quartz has suffered
 5 monetary damages in an amount yet to be determined and will continue to suffer damages in the future.
 6 Lyft is liable to Quartz in an amount that adequately compensates for such infringement, which, by law,
 7 cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under
 8 35 U.S.C. § 284.

9 159. Lyft's wrongful acts have damaged and will continue to damage Quartz irreparably, and
 10 Quartz has no adequate remedy at law for those wrongs and injuries. In addition to its actual damages,
 11 Quartz is entitled to a permanent injunction restraining and enjoining Lyft and its agents, servants, and
 12 employees, and all person acting thereunder, in concert with, or on its behalf, from infringing at least claims
 13 3, 5–8 and 14–16 of the '215 Patent without additional compensation to Quartz in an amount to be
 14 determined by the Court.

15 **FIFTH COUNTERCLAIM**

16 **(Infringement of the '275 Patent)**

17 160. Quartz repeats and realleges the allegations of the above Paragraphs 1–155, which are
 18 incorporated by reference as if fully restated herein.

19 161. Quartz is the owner of all rights, title, and interest in the '275 Patent and, at a minimum, of
 20 all substantial rights in the '275 Patent, including the exclusive right to enforce the patent and all rights to
 21 pursue damages, injunctive relief, and all other available remedies for past, current, and future infringement
 22 thereof.

23 162. Quartz and its predecessors in interest have never licensed Lyft under the '275 Patent, nor
 24 has Quartz otherwise authorized Lyft to practice any part of the '275 Patent.

25 163. The '275 Patent is presumed valid under 35 U.S.C. § 282.

26 164. On information and belief, Lyft, alone and/or in conjunction with agents or parties under its
 27 control, has directly infringed and continues to directly infringe the '275 Patent pursuant to 35 U.S.C.

§ 271(a), either literally or under the doctrine of equivalents, by using methods for coordinating, controlling, and providing ridesharing services (“Lyft Line”) on the Lyft Platform that are covered by one or more claims of the ’275 Patent, in particular, at least claims 1–6 and 9–11, without license or authority. The full scope of infringed claims cannot be determined from Lyft’s publicly available information and will be confirmed in discovery. Notice of the factual basis of Quartz’s allegations of infringement of the ’275 Patent is provided below.

165. Independent claim 1 of the ’275 Patent recites:

A method comprising:

obtaining, by one or more processor, passenger information of one or more passenger traveling within a transportation network, wherein the passenger information includes passenger location information; and

providing, by the one or more processor, an output based on a processing of the passenger information, wherein the processing includes processing to determine an adapted timetable for providing a reduced cumulative wait time.

166. On information and belief, one or more server processors of the Lyft Platform obtain passenger information from one or more passengers using Lyft Line, a transportation network that automatically pairs multiple riders together to share rides for overlapping routes. For instance, passengers may manually input their pick-up location (passenger location information) into the Rider app. In other instances, the Rider app automatically collects a passenger’s location information when a rider opens the app or requests a ride. In both instances, one or more server processors of the Lyft Platform obtains passenger information that includes passenger location information. The passenger information may also include the rider’s drop-off location.

167. On information and belief, one or more server processors of the Lyft Platform process passenger information in order to provide an output based on that information. The one or more servers match drivers with riders. The output may include, for example, identification of the driver with whom a rider has been paired, the expected wait time until the driver arrives, or the anticipated arrival time at the rider’s requested drop-off location. The processing includes determining an adapted timetable for providing a reduced cumulative wait time. In some instances, one or more servers will implement “route swapping,”

1 which takes a rider from one planned route, with an initial baseline timetable, and swaps the rider into a
2 second, more efficient route. By employing route swapping (alone or in combination with other matching
3 techniques), cumulative wait time for passengers in Lyft's dynamic transportation network is reduced.

4 168. With respect to dependent claims 2, 5, and 6, on information and belief, the output of the
5 accused method may adjust a timing of one or more vehicles of the transportation network. For instance,
6 in the case of route swapping, when a passenger is swapped from a first route to the alternative second
7 route, the anticipated arrival time of drivers on both routes are adjusted as compared to the original baseline
8 timetable before the routes are swapped. The output is an adapted timetable including information, such as
9 the anticipated arrival time of the drivers, and is output to the mobile devices (computing nodes) of both
10 the vehicle operators (drivers) and passengers.

11 169. With respect to dependent claims 3 and 4, on information and belief, the passenger
12 information may include passenger pick-up and drop-off locations (passenger trajectory information) for
13 multiple passengers traveling in the transportation network. For instance, in the case of route swapping, the
14 passenger information would include passenger location of the passengers whose routes are being swapped.

15 170. With respect to dependent claim 9, as alleged above with respect to claim 1, the one or more
16 servers obtain the passengers' location information from the passengers' mobile devices (a passenger
17 system).

18 171. With respect to dependent claim 10, in order to match drivers and passengers and provide
19 the output described with respect to claim 1, the one or more Lyft servers must necessarily process vehicle
20 information, including the location of the drivers.

21 172. With respect to dependent claim 11, on information and belief, one or more Lyft servers
22 may provide an output, by one or more processor, in which a change in passenger trajectory is
23 recommended. For instance, an output may include a suggestion that the passenger go to a "hotspot" pickup
24 location or wait an additional amount of time (e.g., 10 minutes) in exchange for a less expensive ride fare.
25 This output is transmitted to the Rider app running on the passenger's mobile device (a computing node of
26 a passenger).

173. Quartz alleges that Lyft has been and is engaged in direct infringing activities because all steps of the claimed methods are performed by the server-side software and/or network of the Lyft Platform and Lyft is the entity that owns or controls and operates such servers and network. On information and belief, Quartz further alleges that Lyft has and continues to use the accused methods for development, testing, and/or training purposes.

174. As a result of Lyft's infringement of at least claims 1–6 and 9–11 of the '275 Patent, Quartz has suffered monetary damages in an amount yet to be determined and will continue to suffer damages in the future. Lyft is liable to Quartz in an amount that adequately compensates for such infringement, which, by law, cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

175. Lyft's wrongful acts have damaged and will continue to damage Quartz irreparably, and Quartz has no adequate remedy at law for those wrongs and injuries. In addition to its actual damages, Quartz is entitled to a permanent injunction restraining and enjoining Lyft and its agents, servants, and employees, and all person acting thereunder, in concert with, or on its behalf, from infringing at least claims 1–6 and 9–11 of the '275 Patent without additional compensation to Quartz in an amount to be determined by the Court.

PRAYER FOR RELIEF

WHEREFORE, Quartz respectfully requests that this Court enter:

A. A judgment in favor of Quartz that Lyft has infringed at least claims 1–8, 10–17, and 19–26 of the '871 Patent, claims 1 and 3 of the '443 Patent, claims 1, 2, 5, 6, 8, 14, 16, and 20 of the '013 Patent, claims 3, 5–8 and 14–16 of the '215 Patent, and claims 1–6 and 9–11 of the '275 Patent pursuant to 35 U.S.C. § 271(a);

B. A permanent injunction enjoining Lyft and its officers, directors, agents, servants, affiliates, employees, divisions, branches, subsidiaries, parents, and all others acting in concert or privity with any of them from infringing or inducing the infringement of any claims 1–8, 10–17, and 19–26 of the '871 Patent, claims 1 and 3 of the '443 Patent, claims 1, 2, 5, 6, 8, 14, 16, and 20 of the '013 Patent, claim 3, 5–8 and 14–16 of the '215 Patent, and claims 1–6 and 9–11 of the '275 Patent, without additional compensation to

1 Quartz in an amount to be determined by the Court;

2 C. A judgment awarding Quartz all damages adequate to compensate it for Lyft's infringement
3 of the Quartz Patents under 35 U.S.C. § 284, and in no event less than a reasonable royalty for Lyft's acts
4 of infringement, including that Lyft provide accountings and pay all pre-judgment and post-judgment
5 interest at the maximum rate permitted by law, and also any past damages permitted under 35 U.S.C. §
6 286, as a result of Lyft's infringement of at least claims 1–8, 10–17, and 19–26 of the '871 Patent, claims
7 1 and 3 of the '443 Patent, claims 1, 2, 5, 6, 8, 14, 16 and 20 of the '013 Patent, claims 3, 5–8 and 14–16
8 of the '215 Patent, and claims 1–6 and 9–11 of the '275 Patent;

9 D. An assessment of costs, including reasonable attorneys' fees pursuant to 35 U.S.C. § 285,
10 and prejudgment interest against Lyft; and

11 E. Such other and further relief as this Court may deem just and proper.

12 **JURY TRIAL DEMANDED**

13 Pursuant to Federal Rule of Civil Procedure 38, Quartz hereby demands a trial by jury on all issues
14 so triable.

Respectfully submitted,

Dated: September 21, 2021

/s/ Nicole L. Little

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